Naval Surface Warfare Center
Carderock Division
West Bethesda, MD 20817-5700

NSWCCD-65-TR–2001/27 October 2001

Survivability, Structures, and Materials Directorate

Technical Report

Effect of Panting on the Fatigue Strength of Ship Plating

by

David P. Kihl

NSWCCD-65-TR–2001/27 Effect of Panting on the Fatigue Strength of Ship Plating

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1. Reference (a) requested the Naval Surface Warfare Center, Carderock Division (NSWCCD) to formulate a procedure and assess the load interaction and fatigue behavior of plate panels subjected to in-plane axial and lateral pressure loads. Enclosure (1) describes the procedure developed and the results of the analysis conducted on a large range of slenderness and aspect ratios describing plate panels.

2. Comments or questions may be referred to Dr. David P. Kihl, NSWCCD Code 653; telephone 301-227-1956; email, KihlDP@nswccd.navy.mil.

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14. ABSTRACT
Panting is the name given to out-of plane movement and formation of secondary bending stresses which are produced when a deformed panel is subjected to in-plane edge loads. The role of panting, particularly as it applies to fatigue, is essentially unquantified. There have been reported incidences where fuel/ballast tank tops have cracked as a result of sloshing and pressure fluctuation between adjoining tanks. However, recent interest in advanced unidirectional double hull concepts for both naval and commercial ships has generated interest in the effects of panting on the fatigue strength of these types of ships. The intent of this investigation is to quantify the additional fatigue damage and associated reduction in fatigue life of a plate panel, which can be attributed to panting. These fatigue analyses considered the interaction of axial load and lateral pressure and established a fatigue analysis procedure where none had previously existed. These results help to identify acceptable aspect and slenderness ratios of plate panels, as well as ratios which should be avoided.

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Introduction

Ship structures generally consist of thin plate with longitudinal and transverse stiffeners welded onto one surface and often contain longitudinally welded seams and transversely oriented butt welds. This arrangement is commonly found on shell, deck, and bulkhead structure throughout the ship. As a ship operates in an active seaway, the wave-induced loads are applied to the hull girder in the form of bending moments. In a given section of plating, global hull girder bending moments manifest themselves as in-plane axial forces distributed over the edge of the stiffened panel.

As the ship hogs and sags in response to passing waves, the in-plane edge forces correspondingly change from tension to compression. However, due to the presence of out-of-plane deformations and/or hydrostatic heads of water due to wave passage, fuel or ballast, the axial stresses either produce or interact with secondary bending stresses. Depending on the magnitude of the axial in-plane stress, the magnitude and spatial distribution of the out-of-plane imperfections or lateral pressure, the boundary conditions of the supported edges of the panel, and the dimensions and thickness of the panel, the local plate panel structure can experience what is referred to as panting. Figure 1 shows an illustration of a ship hull subjected to hull girder bending and hydrostatic pressure fluctuations due to wave height.

From a simplistic point of view, panting is the out-of plane movement and formation of secondary bending stresses which are produced when a deformed panel is subjected to inplane edge loads. As an example, consider a panel uniformly loaded by axial in-plane forces distributed along two opposing edges as shown in Figure 2. Now consider the presence of lateral pressure acting uniformly on one side of the panel. Under zero edge load, the lateral pressure bends the panel and produces the largest out-of-plane deformation at the center of the panel. If a tensile edge load were applied along with the pressure, the panel would tend to extend, and the center deformation would become smaller. If a compressive edge load were applied along with the lateral pressure, the center deformation would obviously increase, especially as the applied edge loading approached the critical buckling load. One can imagine, when the panel edge load is allowed to cycle between tension and compression, that the out-of-plane panel movement would appear to breath, or pant with each cycle.

The role of panting, particularly as it applies to fatigue, is essentially unquantified. There have been reported incidences where fuel/ballast tank tops have cracked as a result of sloshing and pressure fluctuation between adjoining tanks. Incidences of fatigue cracks have also occurred on commercial tankers near the waterline, and have been attributed to the constant passage of waves and structural detailing problems. Similar cracking of the hull near the waterline of Navy ships has not occurred. Occurrence of such damage is likely a combination of structural details (stress concentration factor), panel aspect ratio, material and fabrication quality which is either not present, or less severe, in conventional Navy ships.

However, recent interest in advanced unidirectional double hull concepts for both naval and commercial ships has generated interest in the effects of panting on the fatigue strength of these

types of ships. The intent of this investigation is to quantify the additional fatigue damage and associated reduction in fatigue life of a plate panel which can be attributed to panting.

Advanced Unidirectional Double Hull Ships

Although having a similar outward appearance to conventionally stiffened monohull ships, advanced unidirectional double hull ships are composed of two separate hulls. The hulls are separated by long, narrow web plates, which together, form a series of longitudinal cells surrounding the perimeter of the ship cross section. The length of these cells can typically extend uninterrupted, a distance of forty feet, between transverse bulkheads. The height, width, and thickness of the cells can vary with ship type and application, but would typically be large enough to accommodate fabrication with manual welding. Plating thickness on the order of 1/2 inch is assumed to be typical for combatant hulls and a thickness of 1 inch is assumed to be typical for tanker hulls.

The attributes of a double hull ship, aside from those associated with oil tanker spill prevention and ease of fabrication, relate to the possible uses for the cellular structures located between the two hulls. Unobstructed outfitting routes, armor packages, signature reduction packages, fuel/ballast tanks, and so on, are being investigated to occupy these cells. Beneficial options and tradeoffs can be considered to improve double hull ships that are not possible in conventionally stiffened monohull ships.

Characteristic of unidirectional double hull ship configuration, are the large unstiffened panels that make up the basic structure. The slenderness and size of these panels can make them susceptible to out-of-plane deformations which arise both from fabrication and lateral loading. Transverse stiffening can reduce the magnitude of these imperfections, but this remedy reduces the unobstructed access and ease of fabrication benefits. The need for additional stiffening can be assessed more readily to satisfy structural stability (buckling) requirements, but their need from a fatigue point of view is not so clear.

Approach

Consider a panel of length, *a*, width, *b*, and thickness, *t*, as shown in Figure 3. Note the coordinate system used, associated displacements, sign convention and the location of the origin. The panel is subjected to uniformly applied force along the short edges and net zero force along the long edges. It is assumed that the panel is supported around its perimeter by adjacent structure, such as stiffeners or adjoining panels. Movement in the z direction, w, is therefore held at zero along the edges of the panel. Depending on the location of the panel on the hull and the stiffness of adjoining structure, and the symmetry of applied lateral loads or out-of-plane imperfections, three separate boundary conditions are used to simplify the continuous structure to an isolated panel for ease of evaluation.

If the panel is located on the bottom of the ship, the boundary conditions at the edges would most likely be clamped against rotation. The clamped edge condition arises because adjacent panels would be subjected to the same hydrostatic pressure and because of the symmetrical loading would produce zero slope between the panels. Under the main category of the clamped condition, there are two subcategories; rigidly clamped and loosely clamped. These two subcategories consider the degree of translation allowed along the unloaded edges to distinguish panels located near the deck edge from those located near the centerline of the ship.

In the rigidly clamped case, the in-plane movement, v, along the long "unloaded" edge in the y direction, is zero. This condition allows membrane stresses to develop in both the x and y directions. In the "*x*" direction the membrane stress is equal to the applied edge stress , $F/(tb)$, and in the "*y*" direction, the membrane stress develops from Poisson effects, that is $\nu F/(tb)$, where ν is Poisson's ratio.

In the loosely clamped case, movement, v, is allowed along the "unloaded" edge, so long as the edge remains straight. In this condition, the membrane stresses in the "*y*" direction are assumed to be negligible, and taken to be zero. The net sum of the membrane stress along the long edge is zero.

If the panel is located on an upper deck, it is still subjected to in-plane axial forces arising from hull girder bending, but is not subjected to hydrostatic pressure. Instead, these panels are assumed to have fabrication induced out-of-plane imperfections which are assumed to co-inside with the preferred buckling mode of the panel. The initial amplitude of the out-of-plane imperfections is assumed to be half the plating thickness. The boundary conditions in this case are similar to the loosely clamped case, except that the edge moment is zero instead of the slope.

The three sets of boundary conditions considered in this investigation are given below. Here, x, y, and z are Cartesian coordinates measured from the center of the plate. Displacements u, v, and w are in the x, y, and z directions respectively. Commas denote partial differentiation with respect to x or y. N is the force per unit length acting on the edge and in the direction denoted by the subscripts.

Loosely-clamped

$$\text{On } x = \pm\frac{a}{2}: w = w,_x = N_{xy} = 0,\ u = const,\ \int_{-b/2}^{b/2} N_x(\pm\tfrac{a}{2}, y)dy = F \tag{1a}$$

$$\text{On } y = \pm\frac{b}{2}: w = w,_y = N_{xy} = 0,\ v = const,\ \int_{-a/2}^{a/2} N_y(x, \pm\tfrac{b}{2})dx = 0 \tag{1b}$$

Rigidly-Clamped

$$\text{On } x=\pm\frac{a}{2}: w=w,_x=N_{xy}=0,\ u=const,\ \int_{-b/2}^{b/2} N_x(\pm\tfrac{a}{2},y)dy=F \quad \text{(2a)}$$

$$\text{On } y=\pm\frac{b}{2}: w=w,_y=N_{xy}=v=0 \quad \text{(2b)}$$

Simply-Supported

$$\text{On } x=\pm\frac{a}{2}: w=w,_{xx}=N_{xy}=0,\ u=const,\ \int_{-b/2}^{b/2} N_x(\pm\tfrac{a}{2},y)dy=F \quad \text{(3a)}$$

$$\text{On } y=\pm\frac{b}{2}: w=w,_{yy}=N_{xy}=0,\ v=const,\ \int_{-a/2}^{a/2} N_y(x,\pm\tfrac{b}{2})dx=0 \quad \text{(3b)}$$

In order to proceed with the fatigue analysis, the in-plane axial and secondary out-of-plane bending stresses need to be determined. Since only limited analytical formulations to the problems defined above were found to exist, a computer program was written to obtain a numerical solution (Danielson et al. 1994). The computer program provides results in a non-dimensional format by normalizing the applied edge stress by the classical buckling load of a simply-supported plate with an integer aspect ratio.

$$S_{cr}=-\frac{4\pi^2 E}{12\left(1-\upsilon^2\right)\left(b/t\right)^2} \quad (4)$$

where E is Young's modulus

Upon close examination of the numerical results and the applied pressure or initial imperfection, it was determined that a linear relationship existed for the magnitudes of lateral pressure and initial imperfection considered here. The resulting panel bending stresses were therefore expressed non-dimensionally to more easily present and compare results for panels of different aspect ratios. This solution method, although expedient enough for a case-by-case evaluation, was not well suited for the numerically intensive time domain fatigue damage calculations which would follow.

This investigation therefore initially considers only panting associated with presence of lateral pressure and the first two of the three boundary conditions; loosely and rigidly clamped. The panel structural analysis program was run for applied edge loading values ranging from ±1.5 times the critical stress for a simply supported panel. Six different panel aspect, a/b, ratios were

also considered; that is 1, 2, 3, 4, 8, and 16. These data were then fit to second-degree polynomials for more efficient fatigue damage calculations. In this format, with the relationships between axial stress, lateral pressure, and plate slenderness ratio defined by a simple quadratic equation for each aspect ratio, maximum (and minimum) stresses could be determined for specific locations on the panel. This relationship was of the following form, where constants A, B, and C were associated with a specific aspect ratio and location within the plate. The polynomial coefficients used in these calculations for both the loosely clamped and rigidly clamped conditions are provided in Table 1. Details of the spreadsheet calculations leading to these values are provided in Appendix A. The subscript "*i*" indicates each increment of time within the time histories.

$$S_{bending_i} = p_i \left(\frac{b}{t}\right)^2 \left(A + B\left(\frac{S_{axial\,i}}{S_{cr}}\right) + C\left(\frac{S_{axial\,i}}{S_{cr}}\right)^2 \right) \tag{5}$$

The lateral pressure, *p*, is calculated from the wave height and draft at each increment of time, i. The mean draft was assumed to be constant at 25 feet.

$$p(i) = (unit\ rms\ wave\ amplitude\ time\ history(i)) * (wave\ amplitude\ rms) + draft \tag{6}$$

Similarly, the axial stress component at each increment of time, i, is calculated from the unit rms axial stress time history and the rms stress.

$$S_{axial_i} = (unit\ rms\ axial\ stress\ time\ history(i)) * (axial\ stress\ rms) \tag{7}$$

The six locations of interest over the surface of the panel considered in this investigation are shown in Figure 4. These areas of interest included areas along the short and long edges, and within the heart and at the center of the plate that produced maximum and minimum stresses. Although the exact location of the maximum, or minimum, bending moments sometimes varied slightly with aspect ratio, quantifying this effect was felt to be secondary to the magnitude of the bending moment in determining the reduction in fatigue strength due to panting; the exact location of the maximum stress was therefore ignored in favor of the magnitude.

Stress time histories were then generated for each of the six stress locations of interest by combining the bending and axial stress components to produce maximum stress.

Location 1: Transverse stress on long edge (min My); ν=0 for loosely clamped, ν=0.3 for rigidly clamped.

$$S_{\max_i} = \nu\, S_{axial_i} - S_{bend_i} \tag{8}$$

Location 2: Longitudinal stress on short edge (min Mx).

$$S_{\max_i} = S_{axial_i} - S_{bend_i} \tag{9}$$

Location 3: Transverse stress near short edge (max My); ν=0 for loosely clamped, ν=0.3 for rigidly clamped.

$$S_{\max_i} = \nu\, S_{axial_i} + S_{bend_i} \tag{10}$$

Location 4: Transverse stress at center (ctr My); ν=0 for loosely clamped, ν=0.3 for rigidly clamped.

$$S_{\max_i} = \nu\, S_{axial_i} + S_{bend_i} \tag{11}$$

Location 5: Longitudinal stress near short edge (max Mx).

$$S_{\max_i} = S_{axial_i} + S_{bend_i} \tag{12}$$

Location 6: Longitudinal stress at center (ctr Mx).

$$S_{\max_i} = S_{axial_i} + S_{bend_i} \tag{13}$$

Panting Fatigue Analysis Procedure

So far, for a given panel (defined by a/b and b/t), subjected to lateral pressure and axial in-plane stress, with loosely or rigidly clamped boundary conditions, the combined maximum surface stress for a particular location of interest can be determined. Assuming conservatively that the maximum stress level at a location of interest coincides with a weld location (edge fillet weld or interior butt or seam weld), incremental fatigue damage can be calculated.

To this end, the procedure to evaluate the effect of panting on fatigue strength depended on generating a stress time history composed of axial and bending stress components. Once generated, the stress time history could conceptually be analyzed using rainflow analysis (Dowling 1983; Downing and Socie 1982) to identify stress cycles and Miner's Rule (Miner 1945) to calculate fatigue damage. Furthermore, the effect of panting could be quantified by first analyzing the axial stress time history, and then analyzing the combined (axial and bending) stress history and comparing the results.

Using Gaussian simulation (Yang 1972) and subsequent refinement techniques (Lutes and Wang 1991), separate time histories were generated from power spectral density (PSD) curves of wave height and hull girder bending associated with three different operating scenarios. Many ships tend to spend most of their time operating in bow seas and slow down as they encounter rougher seas. For this reason, the following three conditions were considered; 5 knots in high seas (12.5 meter significant wave height), 15 knots in moderate seas (7.5 meter significant wave height), and 25 knots in low seas (2.5 meter significant wave height). Algorithms to generate

longitudinal vertical bending response amplitude operators (RAOs) (Sikora, Dinsenbacher, and Beach 1983) were used along with the most probable wave spectra formulation of the Ochi 6-parameter family of wave spectra (Ochi 1978) to generate the the PSDs of longitudinal bending moment and wave height. At the extreme fibers of the ship's hull girder, the longitudinal bending moment acts as an in-plane axial load in the hull plating, and so the hull girder bending moment PSDs can be proportioned, and used as axial stress PSDs.

The high sea operating condition, being the most severe, was assumed to produce a 5.0 ksi RMS axial stress (which produces maxima on the order of 4 to 5 times the RMS value; i.e., 20 to 25 ksi) so as to be consistent with current design guidance (Sieve, Kihl, and Ayyub 2000). The moderate and low sea operating conditions were likewise proportioned by the RMS of the bending moments (square root of the area under the PSD curves) to produce axial stress RMS values of 4.03 ksi and 1.75 ksi, respectively. Similarly, the wave height PSDs were transformed into lateral pressure PSDs at the waterline; considering panels located on the bottom of the ship, an additional pressure associated with a 25-foot draft was included.

Longitudinal vertical bending moment RAOs and wave height PSDs used to simulate the axial in-plane stress and lateral pressure time histories are shown in a previously published document (Kihl 1992). A time history with 80,000 increments of time ($\Delta t=0.32766$ seconds) were simulated for the 5 knot, high sea state operating condition. This simulation corresponds to 7.28 hours of operation in that condition. The length of the time history simulations for the other two operating conditions were adjusted so that the simulations also corresponded to 7.28 hours. Table 2 provides specifics of each of the three pairs of stress and wave height time history simulations. It should be noted that these simulations reflect wave induced loadings only and therefore do not contain hull girder loadings associated with wave impacts.

Since the panting (loading and fatigue) calculations were made in the time domain, phasing between the axial stress and pressure loading became a consideration. Therefore, in order to assess phasing between the two loadings, calculations were repeated again and again by shifting the two time histories relative to each other, one increment of time at a time. In this way, a mean fatigue life, maximum fatigue life and minimum fatigue life were produced for each condition (operating condition, a/b, b/t, and location of interest). The number of parameters varied in this procedure resulted in an extremely intensive computer analysis effort, repeating the panting fatigue analysis approximately 81.6 trillion times (8.16×10^{13}), requiring several weeks of round the clock processing on a dedicated bank of computers.

Results of Panting Fatigue Analysis

Fatigue data exist for many configurations of cruciform-shaped structural details (Kihl 1994; Kihl 1997; Kihl 1999; Kihl 2000; Kihl and Sarkani 1992; Kihl and Sarkani 1998). Most of these data were generated under axial loads and consider effects of weld loading, type of steel, misalignment, thickness, and stress level (constant amplitude, mean stress, and random amplitude). Limited data exist for one configuration subjected to bending loads. Although there are no data available which consider interaction between axial and bending loads, such data would most realistically represent the panting situation.

Although this shortcoming is recognized, the fatigue damage calculations performed as part of this effort used a single line power-law S/N curve in terms of stress range having the following coefficients, $\log(A_{rng})=9.0$ and B= -3. These coefficients were chosen instead of any one set of coefficients associated with a given detail configuration because of the range of values available. Future efforts could rerun the fatigue damage calculations considering other values of the slope, i.e., -2, -4, and –5 for interpolation and comparison. The other S/N curve parameter, log(A) can easily be changed, to reflect an actual detail parameter by simply multiplying the resulting fatigue lives produced here by the ratio of $10^{\log(A)}/10^9$. This would be one-way thickness effects could be assessed. Table 3 provides S/N curve coefficients associated with different configurations. Also included in this table, for comparison purposes, are S/N curve coefficients for a longitudinal stiffener and transverse bulkhead penetration, a detail representative of conventional ship hull construction. For further consideration, Table 4 and Table 5 provide S/N curve coefficients and a brief description of welded details originally developed for highway bridges (AASHTO 1992) and later applied to ship structures (Sieve, Kihl, and Ayyub 2000). Figure 5 shows selected S/N curves plotted along with the generic S/N curve used in this study. Since the results of this study are presented only as ratios or percentages of the fatigue lives under axial stresses, the normalized results apply to any structural detail provided the slope of the S/N curve is the same.

In an effort to alleviate this situation altogether, and to show the influence of the bending stress component of the maximum stress, fatigue lives in all cases were normalized by the fatigue life which would be produced under axial stress only. For documentation purposes, fatigue lives of 1168, 977, and 9292 passes (at 7.28 hours of at-sea operation per pass) were calculated for the high sea 5-knot, medium sea 15-knot, and low sea 25-knot conditions, respectively, under axial stress only.

Results of this effort are shown in Figure 6 through Figure 41. All data are plotted on the same scale (±100%) of change in fatigue life from axial alone. Each of the thirty-six different conditions (2 boundary conditions (loosely and rigidly clamped), 6 locations of interest, and 3 operating conditions (high seas 5 knots, medium seas 15 knots, and low seas 25 knots)) is shown in a separate figure containing three plots: minimum, mean and maximum fatigue lives as a function of aspect ratio, A/B, and slenderness ratio, B/T. The minimum, mean and maximum fatigue lives were determined during the analysis procedure which repeatedly performed fatigue damage calculations, each time phasing the axial stress and lateral pressure time histories by one increment of time.

Of particular interest are the plots of minimum fatigue strength. Use of the results in these plots would produce the most conservative posture for assessing the panting fatigue behavior. The vertical axis of the plots shows the percent change in fatigue life from that produced under axial load only. Values greater than zero indicate longer fatigue life, and values less than zero indicate a shorter fatigue life than that produced under axial load only. As one would expect, the most significant reductions in fatigue life are produced in the high-sea, 5-knot operating condition, rigidly clamped boundary condition, and at locations associated with longitudinal stresses, i.e. #2, #6, #5 (for all B/T ratios), in order of importance. Location #1 (for high B/T ratios), associated with transverse stress, is also of significant importance for high B/T (>65) ratios. Of lesser importance are the locations associated with transverse stresses, #4, and #3, in order of importance.

Location of interest #1 is associated with stresses in the transverse direction along the long edge of the panel where the minimum bending moment My occurs. (Minimum My arises from lateral pressure and axial stress amplification effects as well as Poisson stress arising from axial stress). Location #1 begins a decrease in fatigue life only after a B/T ratio of 65 regardless of aspect ratios above unity that were considered.

Location of interest #2 is associated with stresses in the longitudinal direction along the short edge of the panel where the minimum bending moment Mx occurs. (Minimum Mx arises from lateral pressure and axial stress amplification effects). Location #2 is, overall, the most critical of the six locations considered. Location #2 begins a decrease in fatigue life immediately, achieving a 50% decease in fatigue life for a B/T ratio of about 50 regardless of aspect ratios above unity that were considered. Fortunately, the rate of decrease in fatigue life slows beyond this point, appearing to begin leveling off at a B/T ratio of 90.

Location of interest #3 is associated with stresses in the transverse direction within the heart of the plate where the maximum bending moment My occurs. (Maximum My arises from lateral pressure and axial stress amplification effects as well as Poisson stress arising from axial stress). Location #3 begins a decrease in fatigue life only after a B/T ratio of about 90 and is relatively insensitive to aspect ratios above unity that were considered, although the higher aspect ratios establish a lower bound.

Location of interest #4 is associated with stresses in the transverse direction at the center of the plate where the bending moment Mctr occurs. (Mctr arises from lateral pressure and axial stress amplification effects as well as Poisson stress arising from axial stress). Location #4 begins a decrease in fatigue life only after a B/T ratio of about 80 with panels having an A/B ratio of 3 establishing the lower bound of those aspect ratios considered.

Location of interest #5 is associated with stresses in the longitudinal direction within the heart of the plate where the maximum bending moment Mx occurs. (Maximum Mx arises from lateral pressure and axial stress amplification effects). Location #2 begins to gradually decrease in fatigue life, achieving a minimum decrease of about 25% in fatigue life for a B/T ratio of about 70. Panels having an A/B ratio of 2 establish the lower bound of those aspect ratios considered.

Location of interest #6 is associated with stresses in the longitudinal direction at the center of the plate where the bending moment Mctr occurs. (Mctr arises from lateral pressure and axial stress amplification effects). Location #6 begins to decrease in fatigue life immediately, reaching a decease in fatigue life of about 25% at a B/T ratio of 50. Except for an A/B ratio of unity, the decrease in fatigue life continues at an increasing higher rate. Panels having an A/B ratio of 3 establish the lower bound of those aspect ratios considered.

The plots of minimum, mean and maximum fatigue lives were all developed by incrementally shifting the axial stress and lateral pressure time histories through increments of time. The mean and maximum fatigue life plots produce more optimistic results than those obtained from the plots of minimum fatigue life. Although tempting to consider this behavior, fatigue behavior based on the minimum fatigue life is felt to be the most conservative, and proper, behavior to consider at this time. Future efforts may provide information on alternatives to the approach of time history phasing applied here and may therefore relax the conservative position adopted here.

To put this fatigue behavior in the proper perspective, consider the differences in conventional and advanced double hull structure from a geometry and fatigue point of view. Aspect ratios, A/B, of conventional hulls are likely to be below a value of four, whereas, advanced double hulls are likely to be above a value of eight. Slenderness ratios, B/T, of conventional hulls are likely to be below a value of sixty, whereas, advanced double hulls are likely to be above a value of seventy. These ranges of ratios clearly put conventional hulls in a more favorable position when considering the results of these panting analyses. However, conventional hull structure contains details of longitudinal stiffener penetrations through transverse frames and bulkheads that can exhibit some 50% to 75% of the fatigue strength of the simple intersecting plate geometry represented by cruciform specimens. This being the case, fatigue lives for advanced double hull structure could be expected to last two or more times as long, as conventional hull structure considering axial stress alone. The offsetting effect of panting for the advanced double hull structure tends to equalize the difference between the two hull configurations. Panting affects the conventional hull also, but not as much to overcome the strength of the stiffener penetrations and shift the failure site to the plating. Furthermore, considering sites within the heart of the plate to be locations of butt and seam welds (locations #3, #4, #5 and #6), better fatigue behavior would be expected than that at the edges where fillet weld behavior (represented by cruciform behavior) governs.

As and example, consider typical conventional ship structure ($A/B = 4$ and $B/t = 40$) and typical advance double hull (ADH) ship structure ($A/B = 8$ and $B/t = 80$). At location of interest #2, longitudinal stress at the short edges, the conventional ship structure can be represented by AASHTO Detail E and the ADH ship structure can be represented by AASHTO Detail C. At this location, the conventional and ADH ship structures show and average change in fatigue life from axial stress due to panting of only -37% and -79%, respectively, considering the high, medium and low sea state conditions. Assuming a 30-year fatigue life based on axial stresses alone, the conventional ship structure would have three times the fatigue life as the ADH ship structure (18.9 years versus 6.3 years) if both ships had the same structural details. Since the conventional ship structure has an AASHTO Detail E, its fatigue life changes by a factor of $10^{9.03}/10^9$ to 20.3 years. Similarly, since the ADH ship structure has an AASHTO Detail C, its fatigue life changes by a factor of $10^{9.652}/10^9$ to 28.3 years. For this example, the ADH ship structure exhibits a fatigue life 40% longer than the conventional ship structure.

At the other locations of interest, the fatigue details would be the same for the two types of ship structure. Using the same parameters of this example, it can similarly be shown that the conventional ship structure outperforms the ADH structure for locations 1, 3, 4 and 6; but in all locations except location 2, the fatigue life is greater than 30 years. Results for other configurations may vary depending on the parameters chosen.

Outstanding Issues

Data show that specimens subjected to bending loads exhibit longer fatigue lives than the same detail configuration loaded axially under the same stress level. Although limited data exist for the same detail loaded separately under axial and under bending loads, no data are known

which consider interaction behavior between the two types of loading. In the absence of data, one could hypothesize a relationship between axial and bending fatigue behavior. Consider the axial and bending fatigue behavior to be separately represented by traditional power law relationships.

$$\log(N_{axial}) = \log(A_{axial}) + B_{axial} \log(S_{axial}) \tag{14a}$$

$$\log(N_{bend}) = \log(A_{bend}) + B_{bend} \log(S_{bend}) \tag{14b}$$

To produce an S/N curve which combines these two types of loading to produce fatigue behavior of maximum stress, the following could be considered.

$$\log(A_{\max}) = \log(A_{bend}) + (\log(A_{axial}) - \log(A_{bend})) * (S_{axial} / S_{\max}) \tag{15a}$$

$$B_{\max} = B_{bend} + (B_{axial} - B_{bend}) * (S_{axial} / S_{\max}) \tag{15b}$$

where $S_{max}=S_{axial}+S_{bend}$.

One can see that, in the absence of either axial or bending stress, the S/N curve parameters default to those representing the remaining type of loading. Whether this relationship actually reflects the true interactive behavior remains to be seen, but at least it appears to be intuitively valid.

In theory, even if these relationships prove to be a valid representation, it would be extremely difficult to implement. As stress cycles are identified during the rainflow analysis procedure, each extremum has associated with it an axial stress and a bending stress component. Each rainflow cycle however has associated with it, two extremum. Perhaps if this information were kept with each of the stress cycles, an average fatigue damage for that cycle, based on the average of the peak and trough damages, could be determined. In any event, incorporating combined axial and bending fatigue behavior into the panting analysis procedure remains an issue for future efforts.

The lateral pressure loading in this scenario is assumed to act externally from draft and variations in wave height. With clamped boundary conditions, and the notion that the draft will always be greater than the wave amplitude (to keep the ship in the water), bending stresses at the welds around the perimeter of the panel would be compressive. The previous analyses were performed in terms of stress range. Unless high tensile residual stresses also exist in sufficient magnitude to maintain a net tensile stress field, crack initiation may not occur. Various assumed initial states could be considered in future analyses to quantify this effect on the calculated panting fatigue life. This issue does not pertain to the other locations of interest within the heart of the plate.

Finally, the third boundary condition having simple supports and fabrication induced out-of-plane imperfections can be considered. This is not as straight-forward as the clamped

boundary conditions already considered, as it will require some interpretation and possible modification to the computer code which generates the bending moment distributions on the panel as a function of applied axial stress. It is none-the-less, an aspect requiring further attention.

Conclusions and Recommendations

These fatigue analyses considered the interaction of axial load and lateral pressure and established a fatigue analysis procedure where none had previously existed. These results help to identify acceptable aspect and slenderness ratios of plate panels, as well as ratios which should be avoided.

The most critical point on any given panel is on the transverse edge where primary longitudinal in-plane axial stresses are usually present. When lateral pressure is also present, secondary bending stresses, also in the longitudinal direction, interact with the primary in-plane axial stresses to produce even higher surface stress levels. At this location, an immediate decrease in fatigue life from the in-plane axial load acting alone occurs, such that at a B/T ratio of 50, a decrease in minimum fatigue life of 50% is expected. This is more a concern for ADH ships than conventionally stiffened hulls because the minimum fatigue life continues to decrease into the regime of B/T ratios associated with ADH ships.

Although the mean and maximum fatigue life plots produce more optimistic results than those obtained from the plots of minimum fatigue life, fatigue behavior based on the minimum fatigue life is felt to be the most conservative, and proper, behavior to consider at this time. Future efforts may shed information on alternatives to the approach of time history phasing applied here and may therefore relax the conservative position adopted here.

Due to the type of structural details used in conventional stiffened hulls versus those used in ADH ships, ADH ships should have fatigue lives of two or more times that of conventionally stiffened hulls. This difference would tend to offset the effect of panting associated with the higher A/B and B/T ratios associated with ADH ship plating. The value would obviously depend on the actual A/B and B/T ratio used in a particular ADH ship design.

Future efforts should include accounting for mean stress effects, which were not included in this study, as well as considering the effect of axial and bending interaction as it applies to fatigue behavior. This interaction should be based on experimental data if available, but alternatively could be based on a hypothetical interaction such as that proposed earlier in this report. Finally, the case of simply supported boundary conditions with fabrication-induced imperfections could also be evaluated.

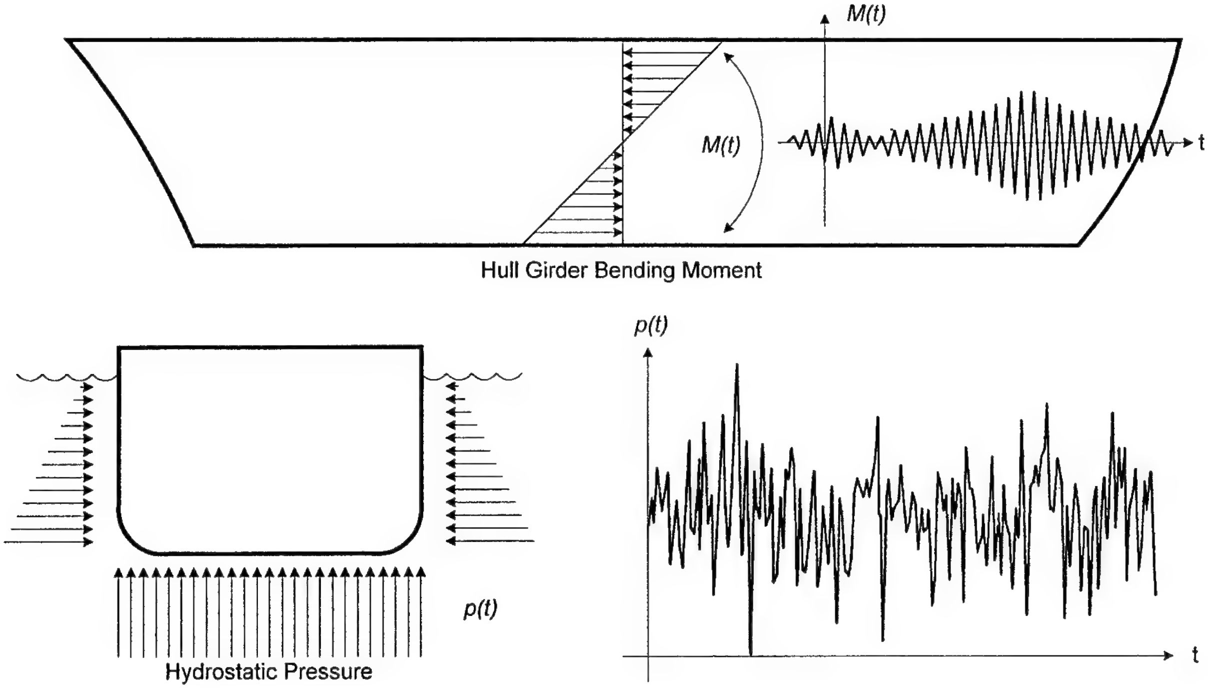


Figure 1. Ship Hull Subjected to Bending Moment and Hydrostatic Pressure Variations

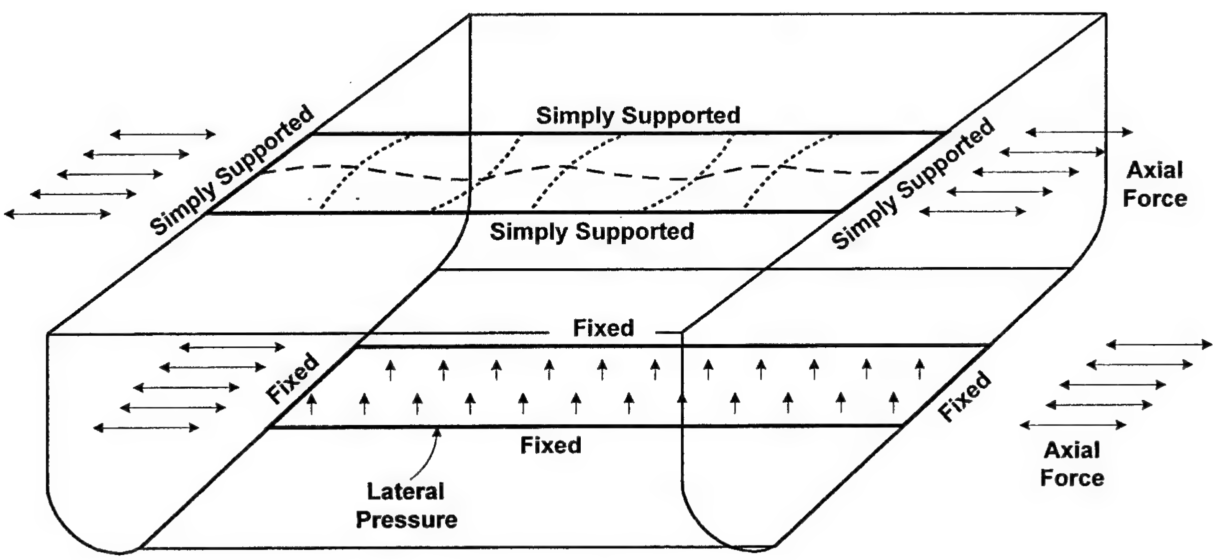


Figure 2. Panels on a Ship Hull Subjected to Uniform Axial Load, Lateral Pressure and Out-of-Plane Deformation

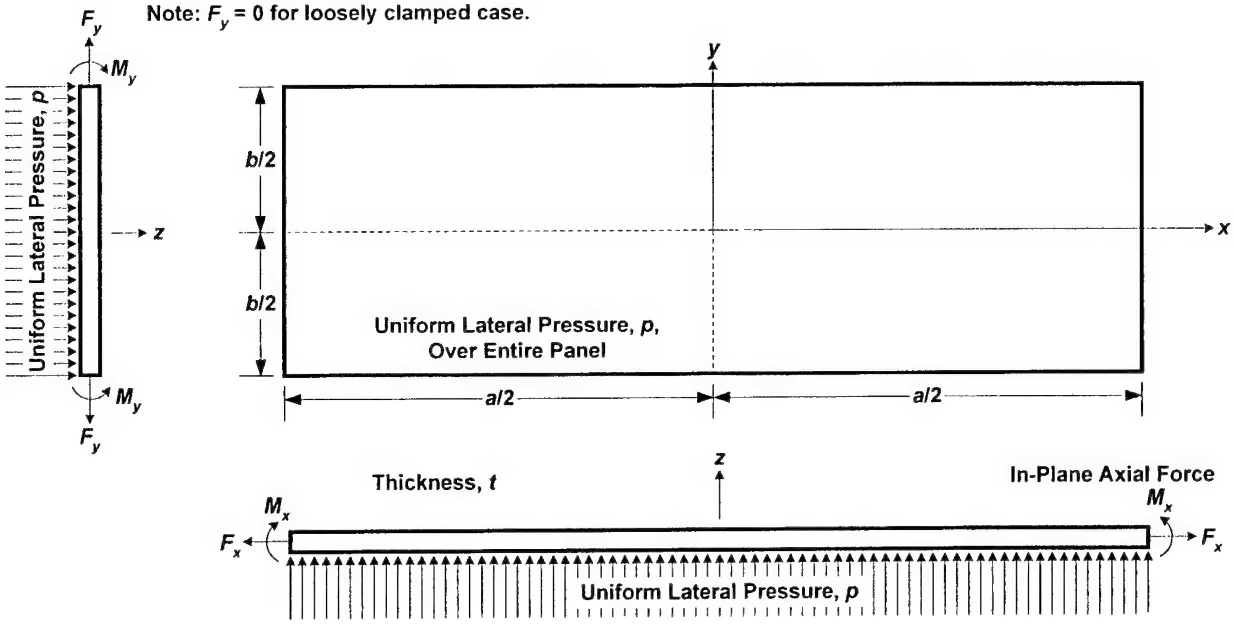
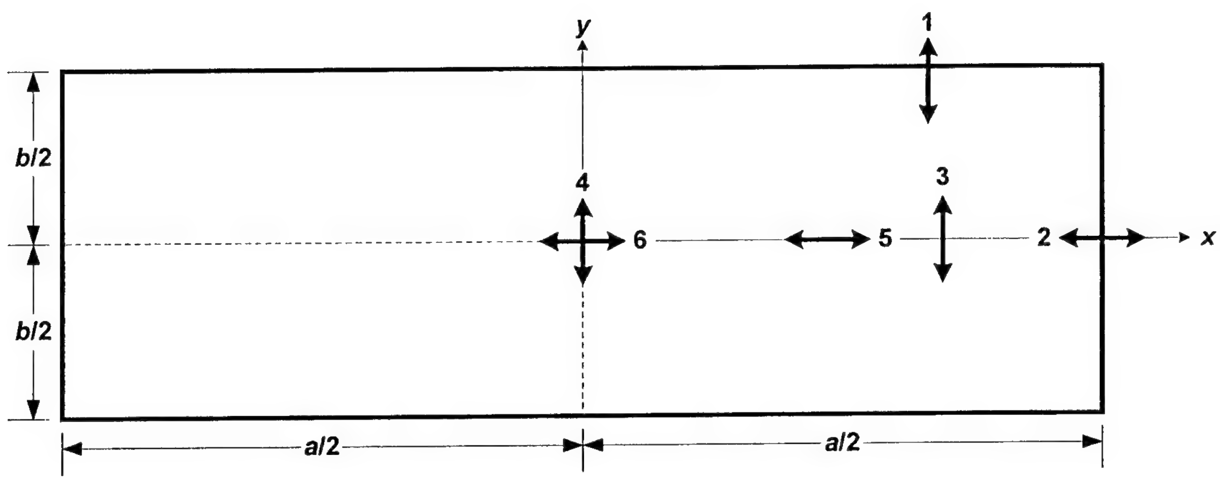


Figure 3. Typical Panel Layout, Loading and Coordinate System



	Location of Interest	Load Combinations	Direction of Stress
1	Long Edge	Min M_y and F_y	Transverse
2	Short Edge	Min M_x and F_x	Longitudinal
3	Maximum within Panel Y-direction	Max M_y and F_y	Transverse
4	Center "Y"	Center M_y and F_y	Transverse
5	Maximum within Panel X-direction	Max M_x and F_x	Longitudinal
6	Center "X"	Center M_x and F_x	Longitudinal

Figure 4. Typical Panel Indicating Locations of Interest

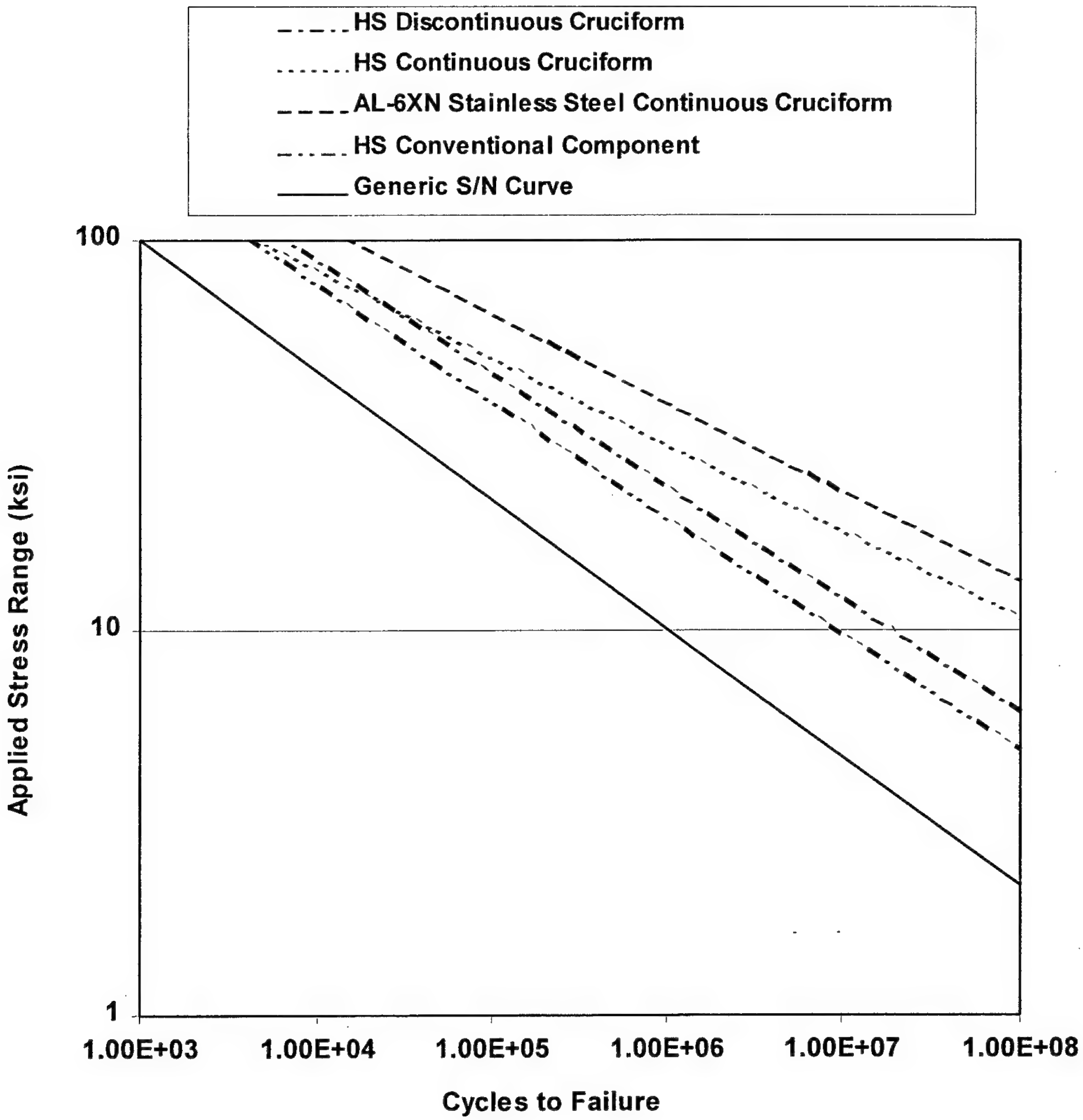
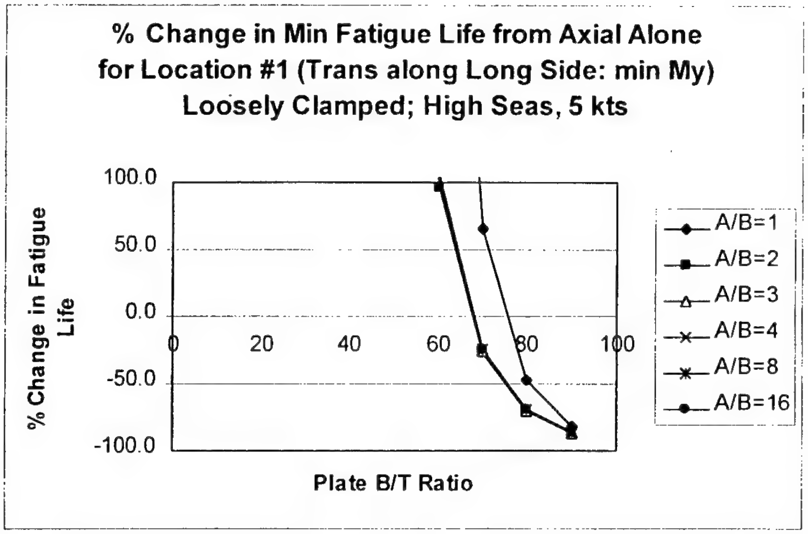
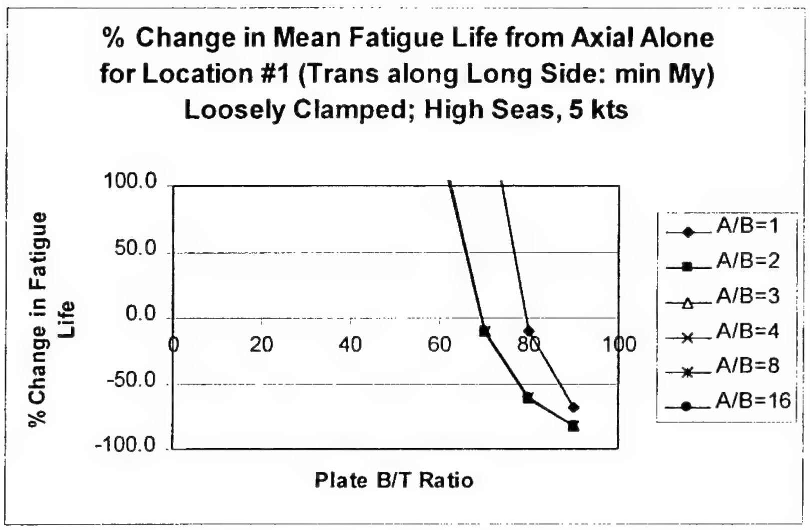


Figure 5. Selected S/N Curves





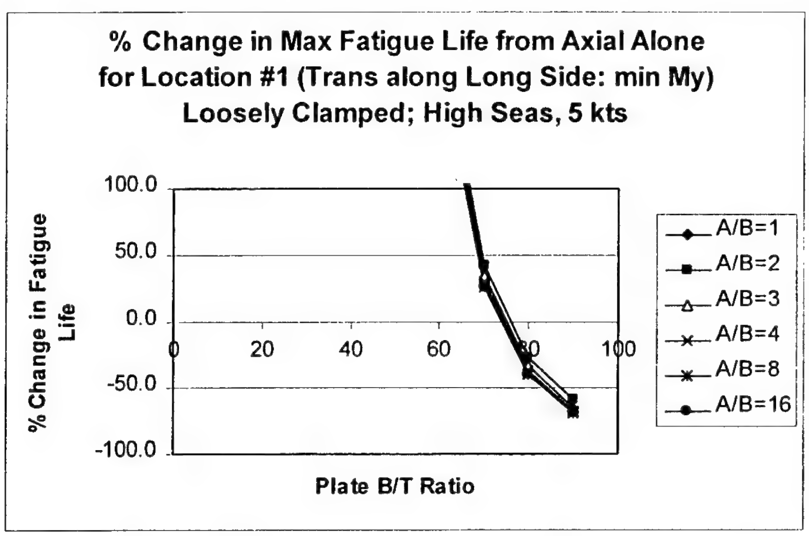
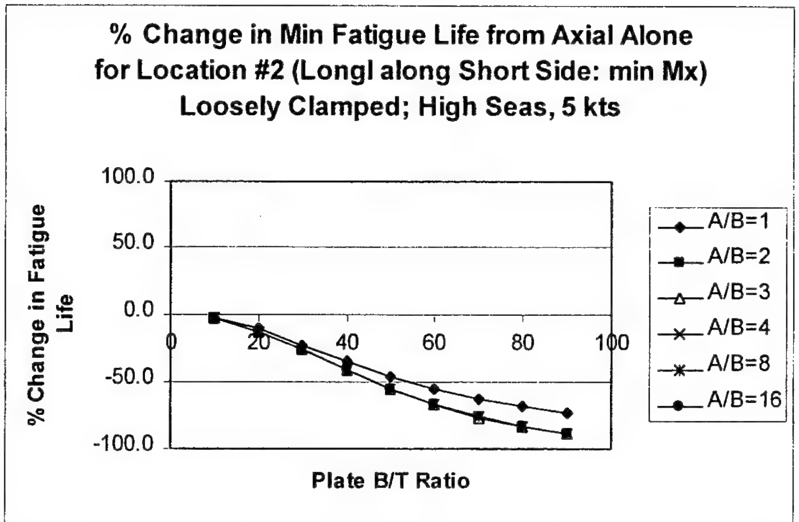
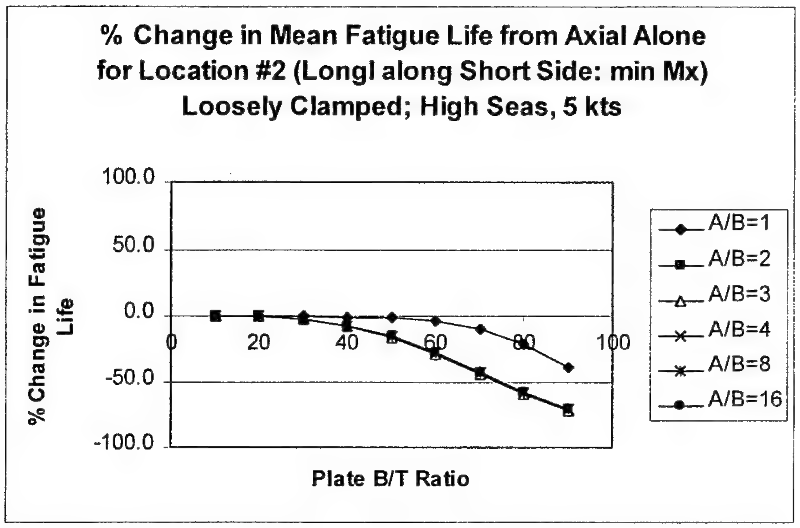


Figure 6. Fatigue Analysis with Loosely Clamped Edges in High Seas at 5 Knots: Location #1





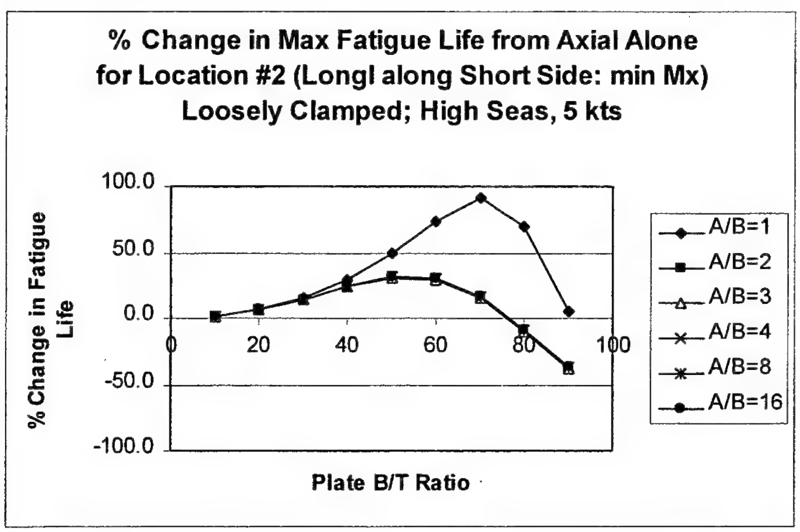
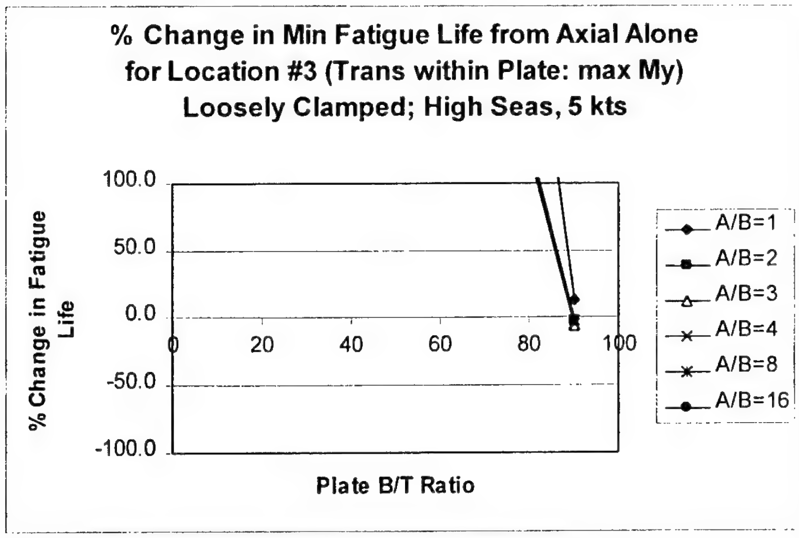
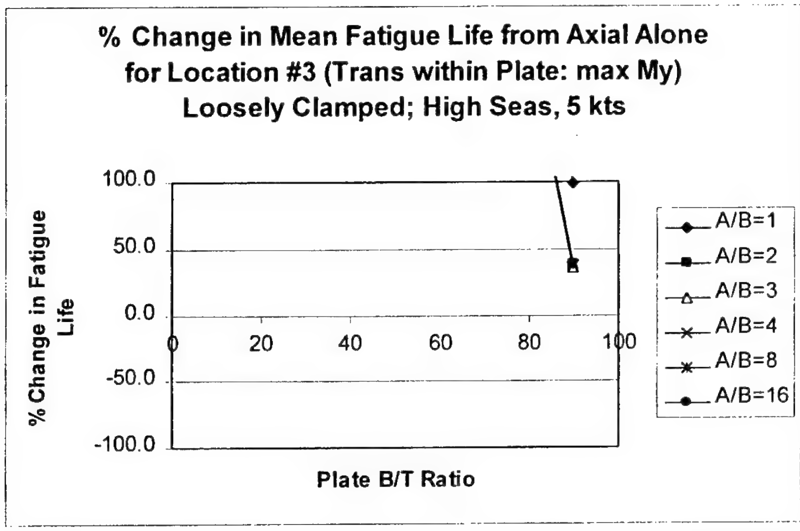


Figure 7. Fatigue Analysis with Loosely Clamped Edges in High Seas at 5 Knots: Location #2





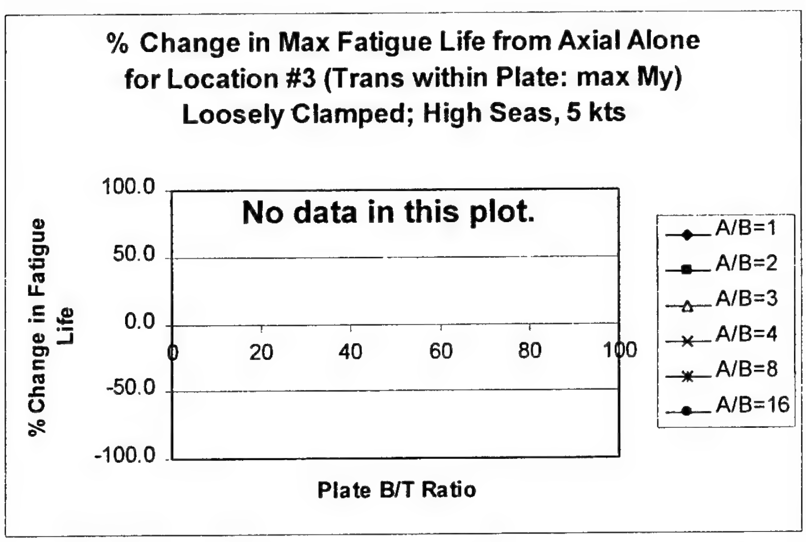
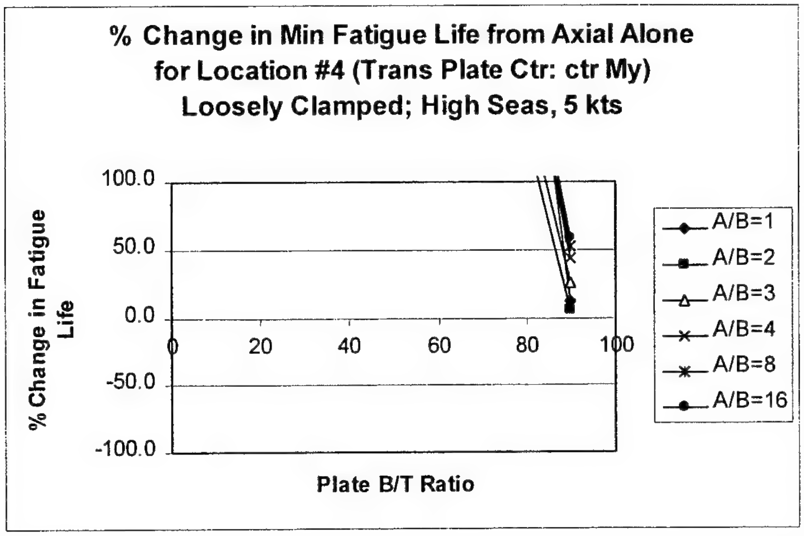
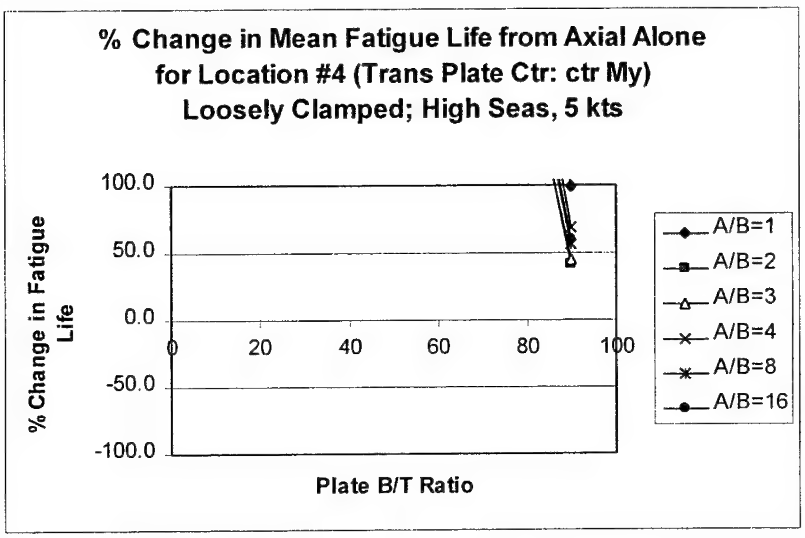


Figure 8. Fatigue Analysis with Loosely Clamped Edges in High Seas at 5 Knots: Location #3





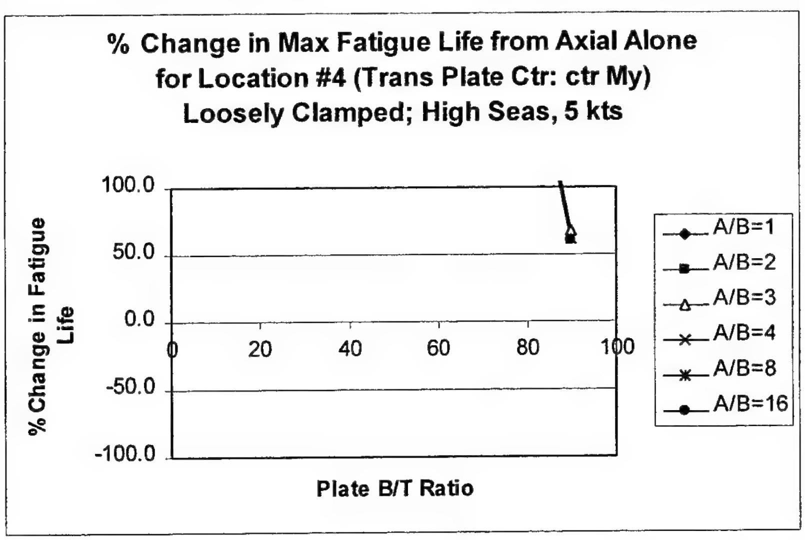
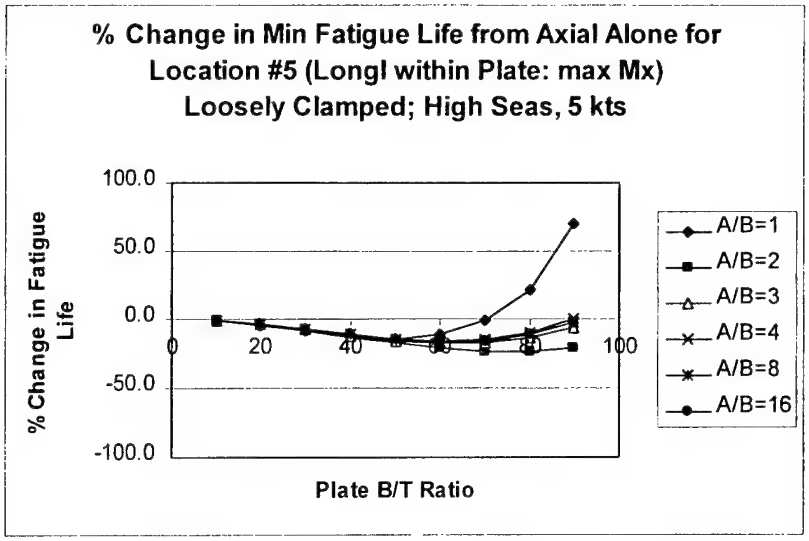
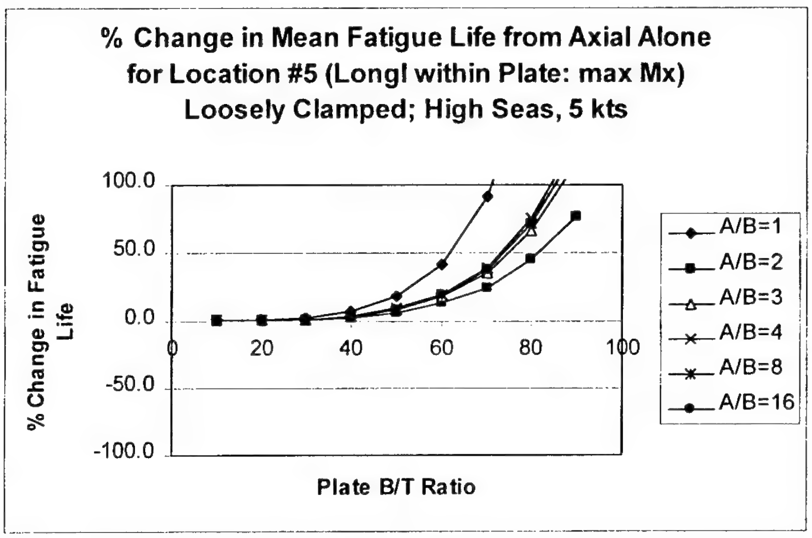


Figure 9. Fatigue Analysis with Loosely Clamped Edges in High Seas at 5 Knots: Location #4





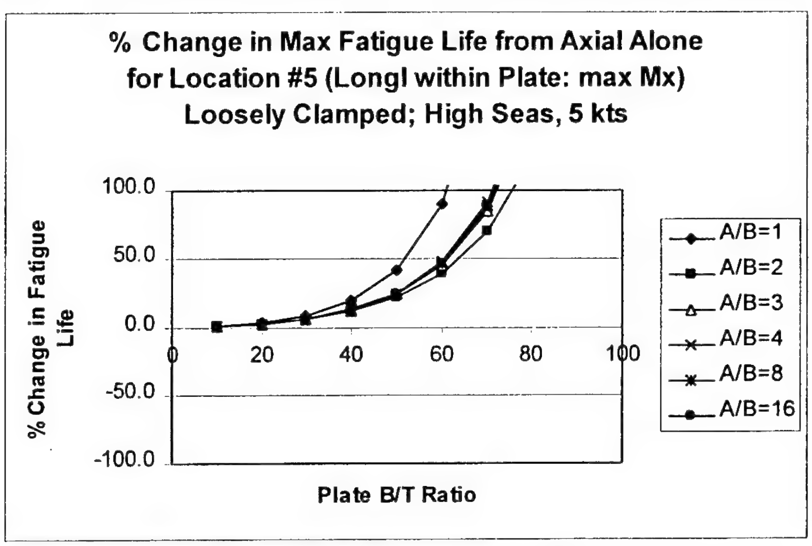


Figure 10. Fatigue Analysis with Loosely Clamped Edges in High Seas at 5 Knots: Location #5

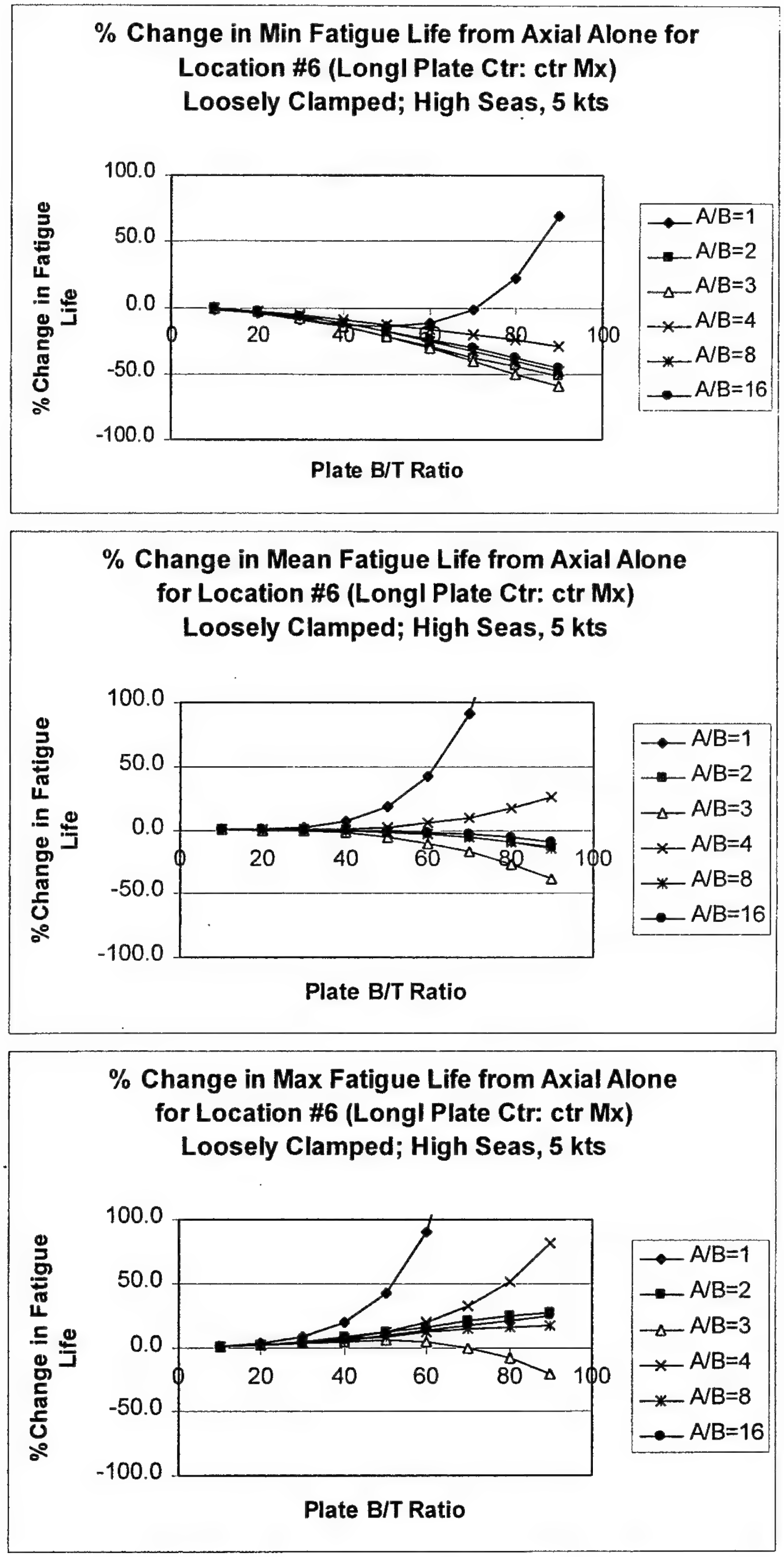
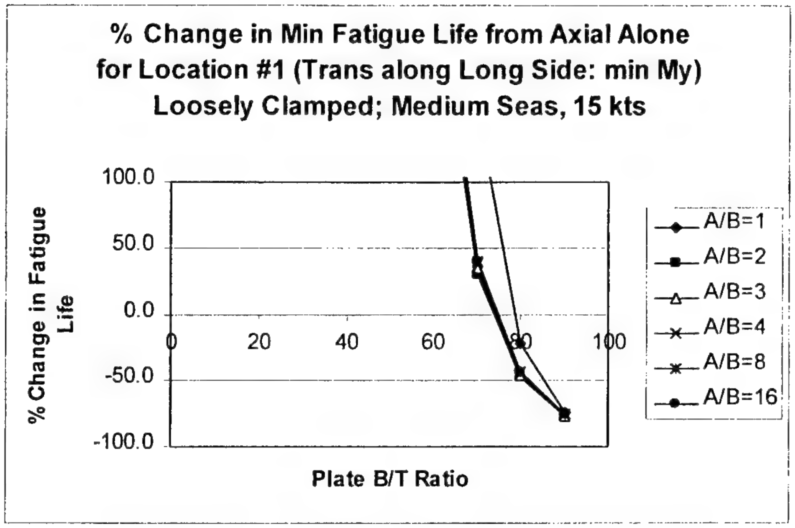
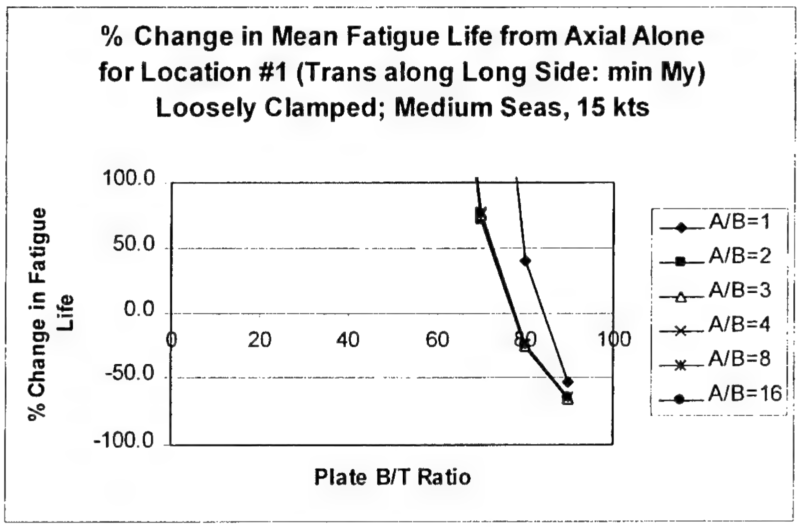


Figure 11. Fatigue Analysis with Loosely Clamped Edges in High Seas at 5 Knots: Location #6





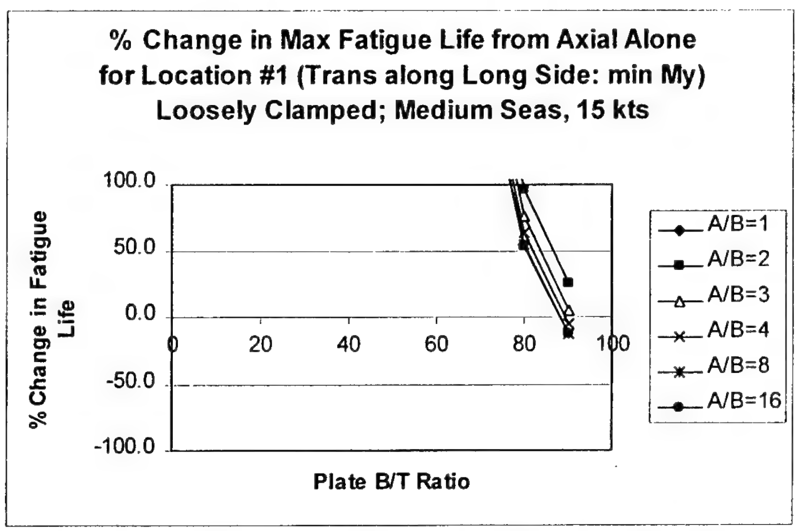


Figure 12. Fatigue Analysis with Loosely Clamped Edges in Medium Seas at 15 Knots: Location #1

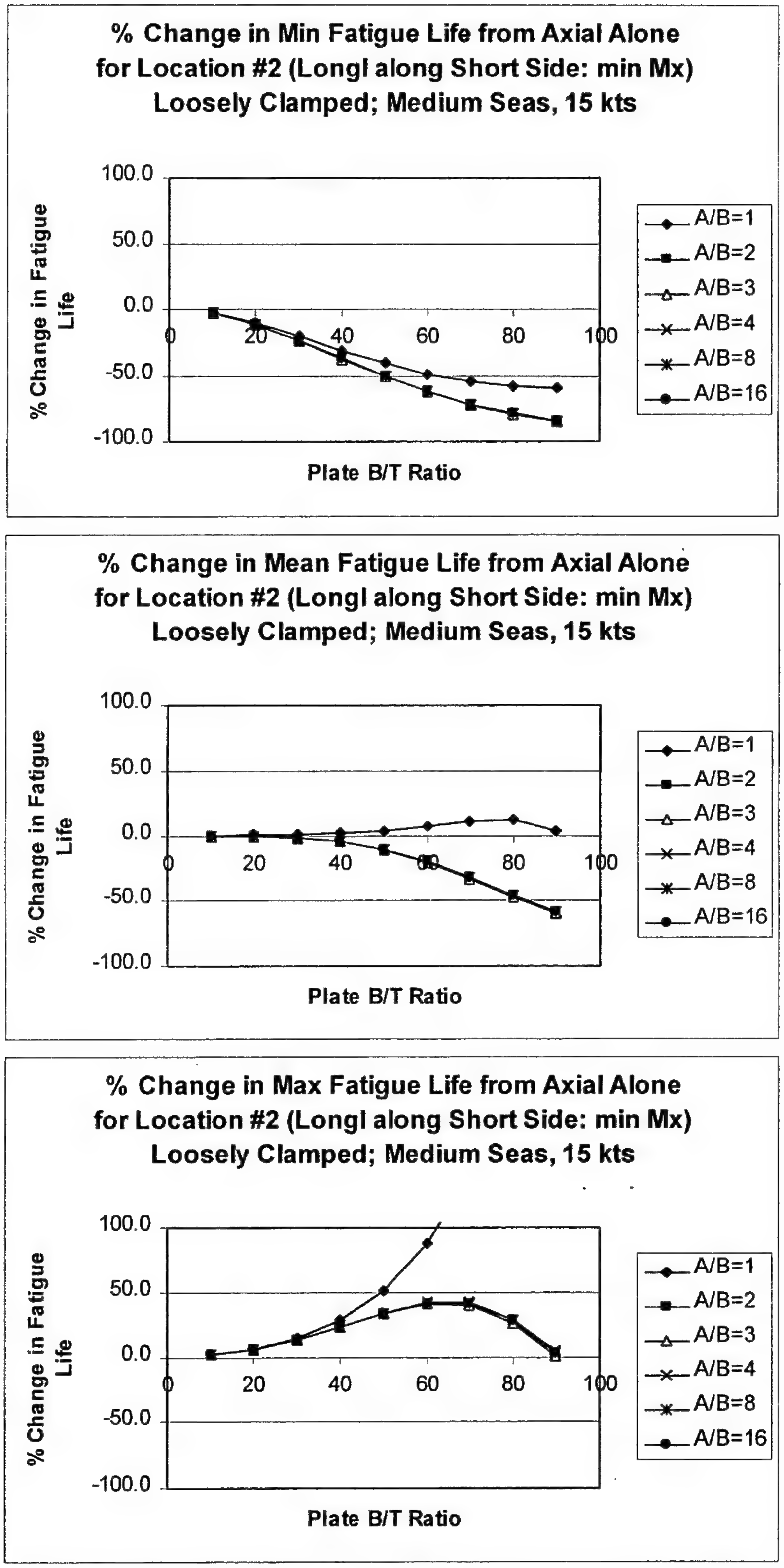
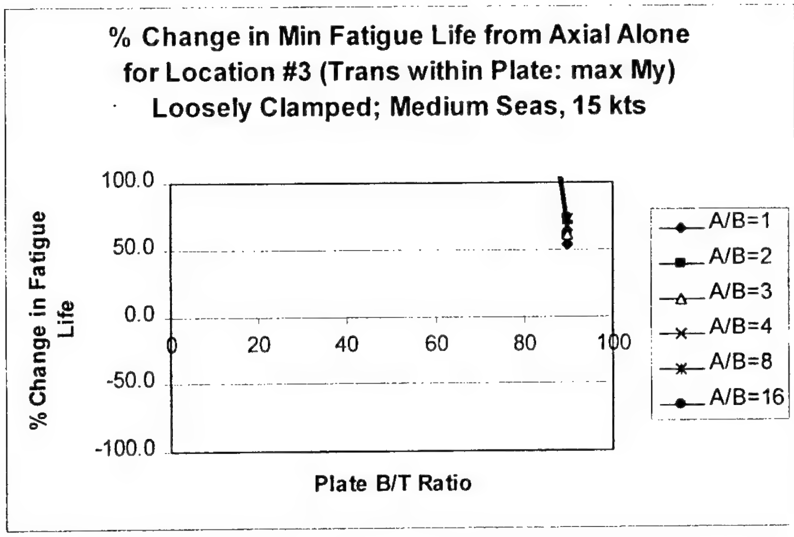
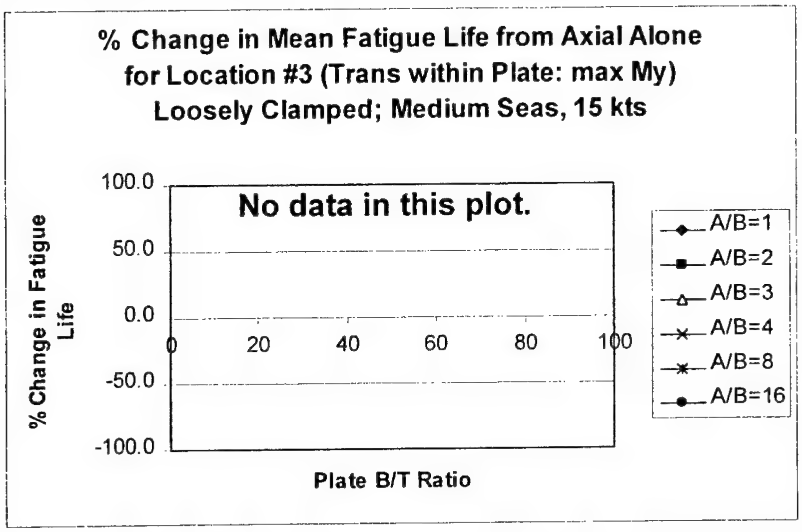


Figure 13. Fatigue Analysis with Loosely Clamped Edges in Medium Seas at 15 Knots: Location #2





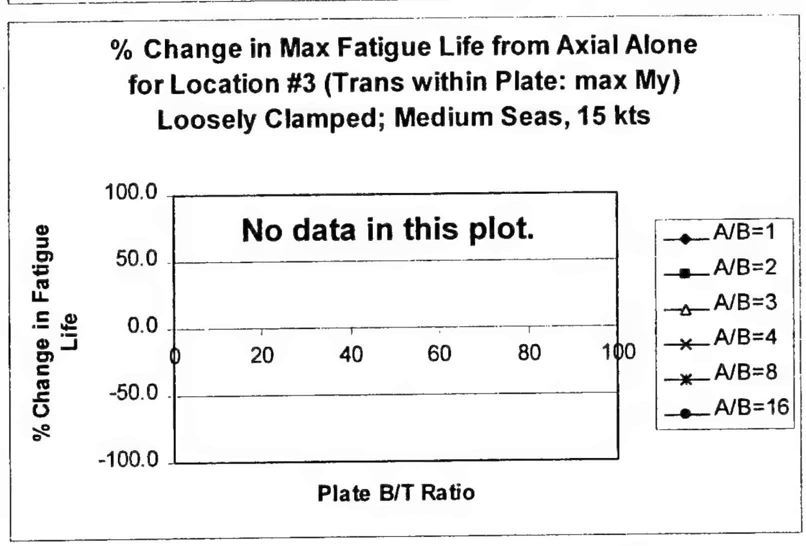
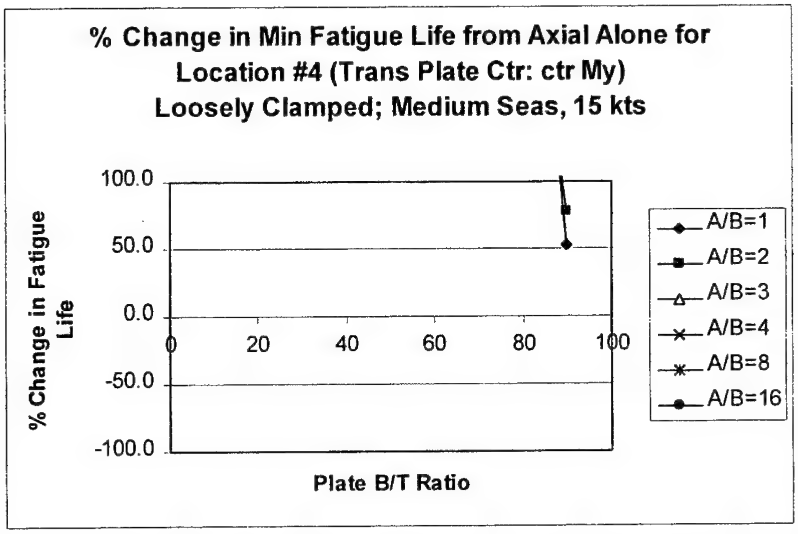
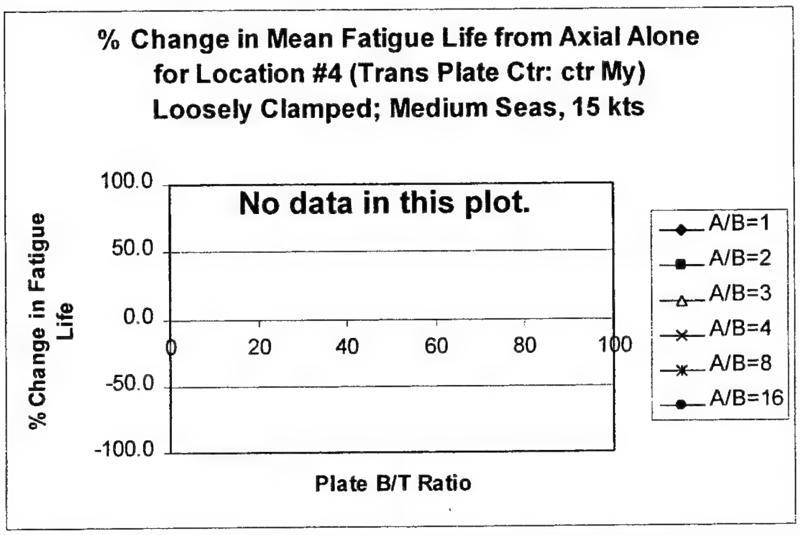


Figure 14. Fatigue Analysis with Loosely Clamped Edges in Medium Seas at 15 Knots: Location #3





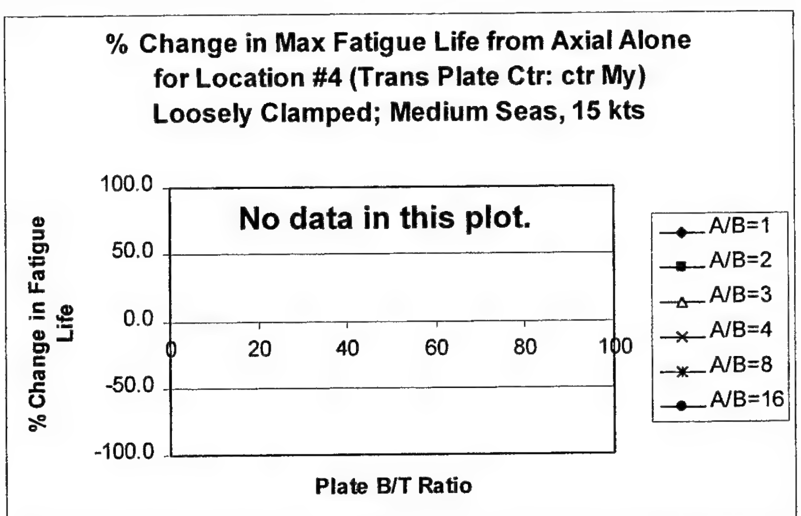


Figure 15. Fatigue Analysis with Loosely Clamped Edges in Medium Seas at 15 Knots: Location #4

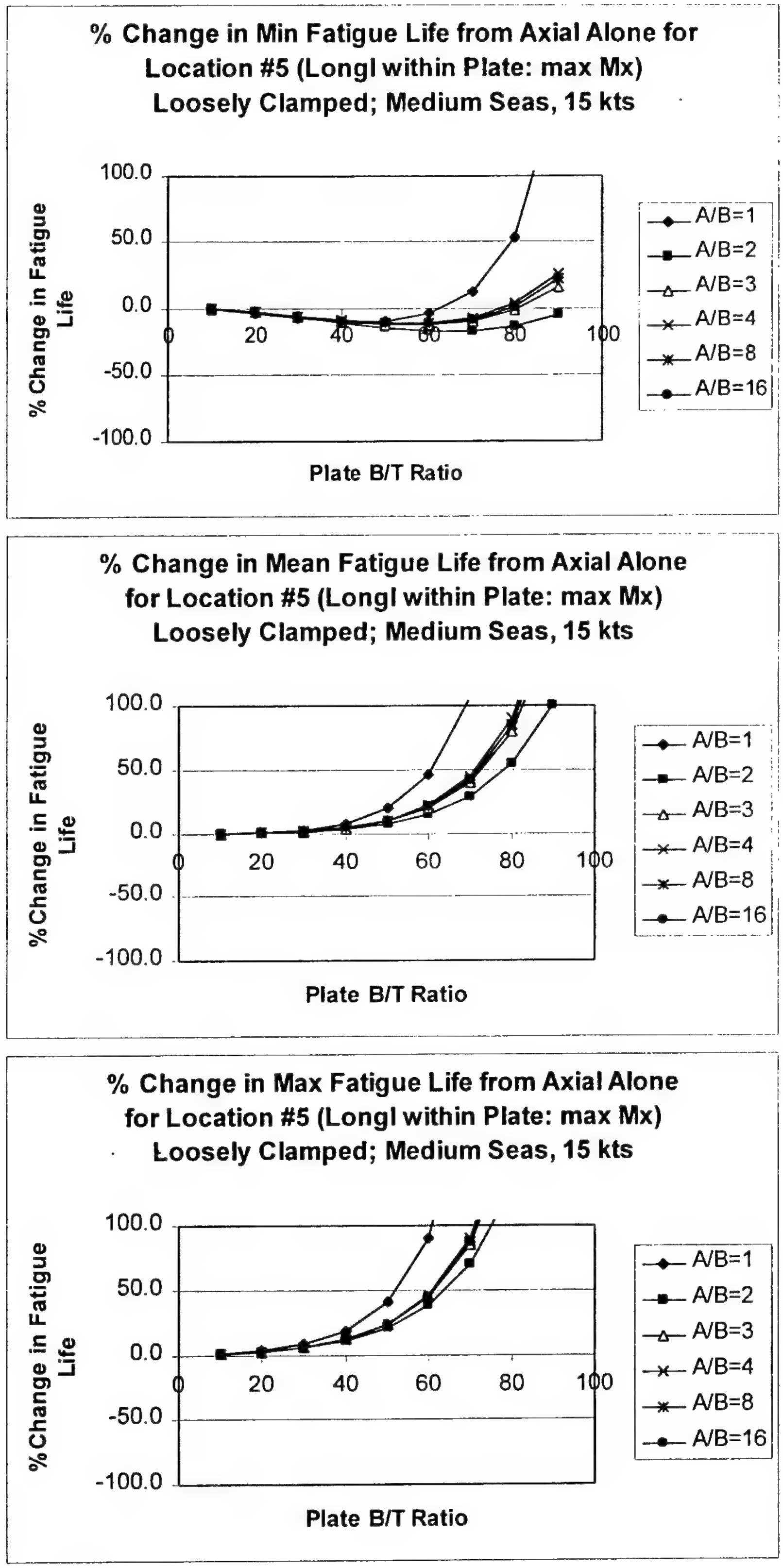


Figure 16. Fatigue Analysis with Loosely Clamped Edges in Medium Seas at 15 Knots: Location #5

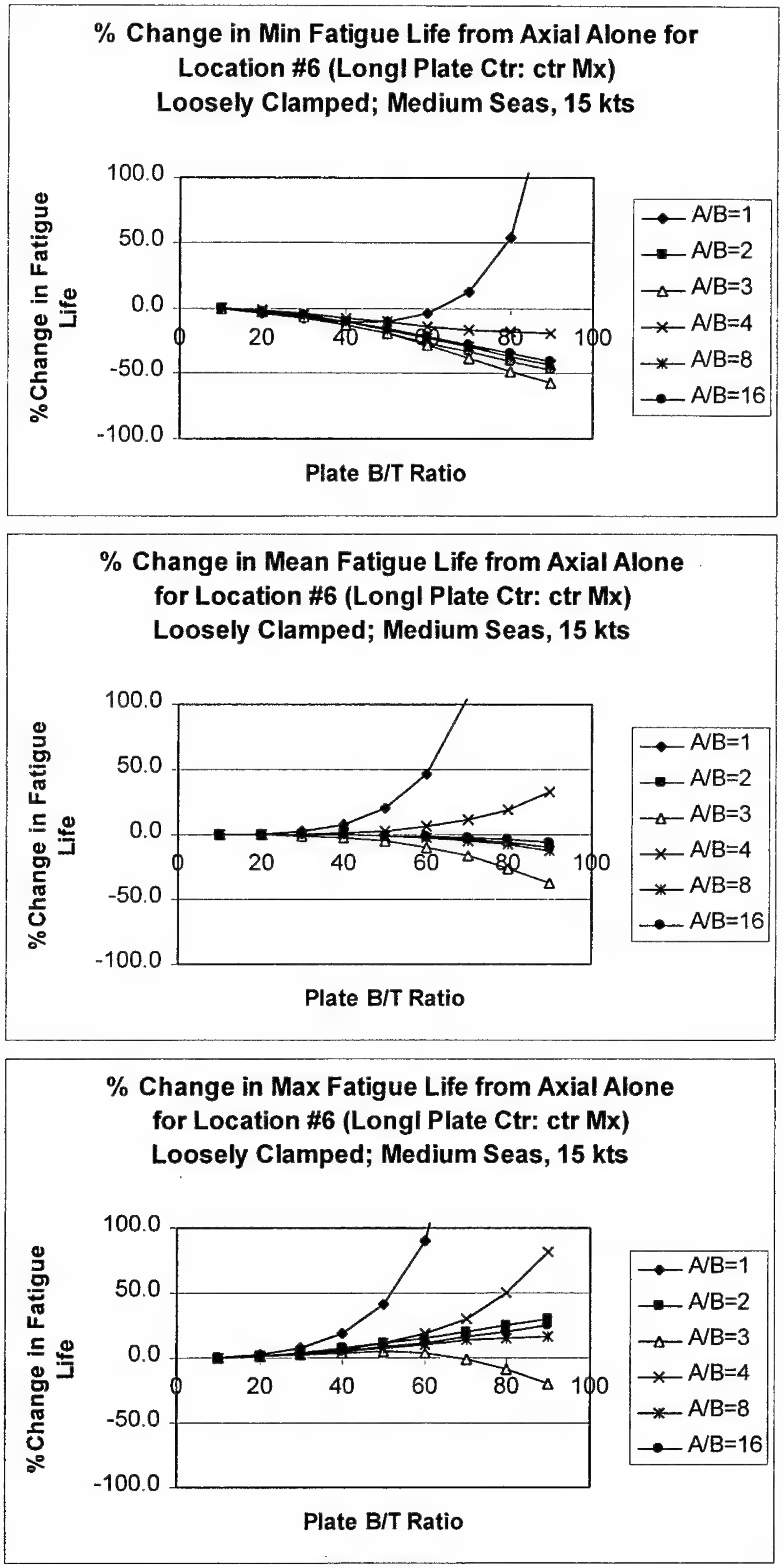


Figure 17. Fatigue Analysis with Loosely Clamped Edges in Medium Seas at 15 Knots: Location #6

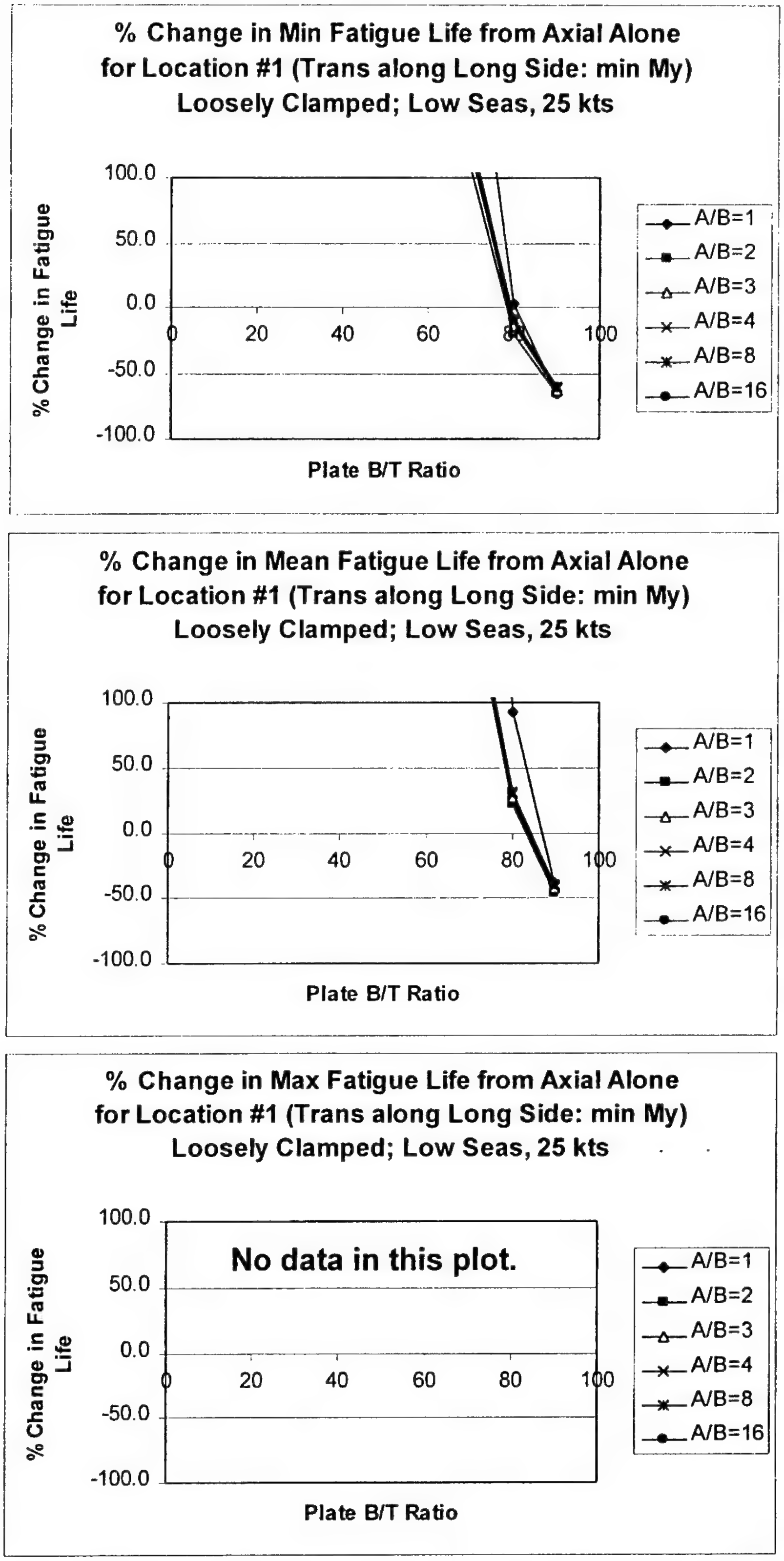
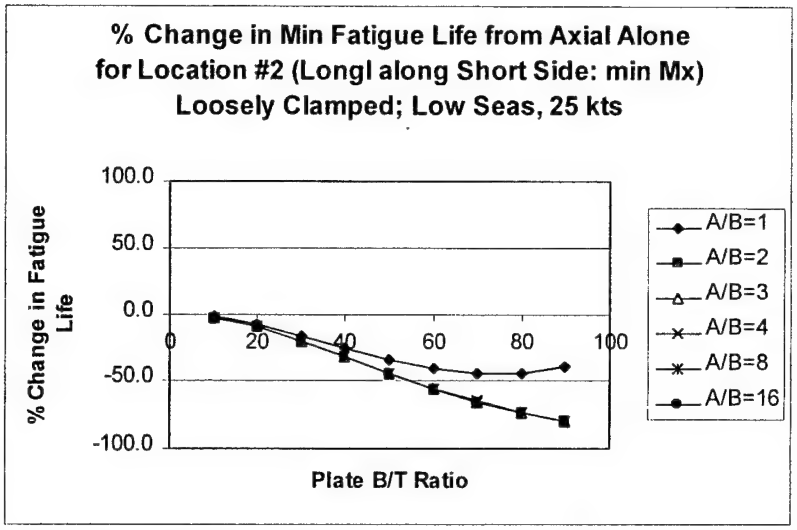
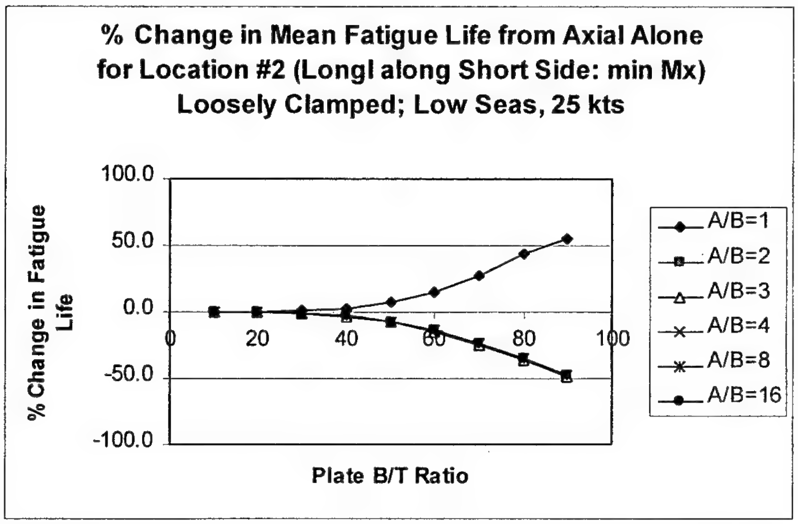


Figure 18. Fatigue Analysis with Loosely Clamped Edges in Low Seas at 25 Knots: Location #1





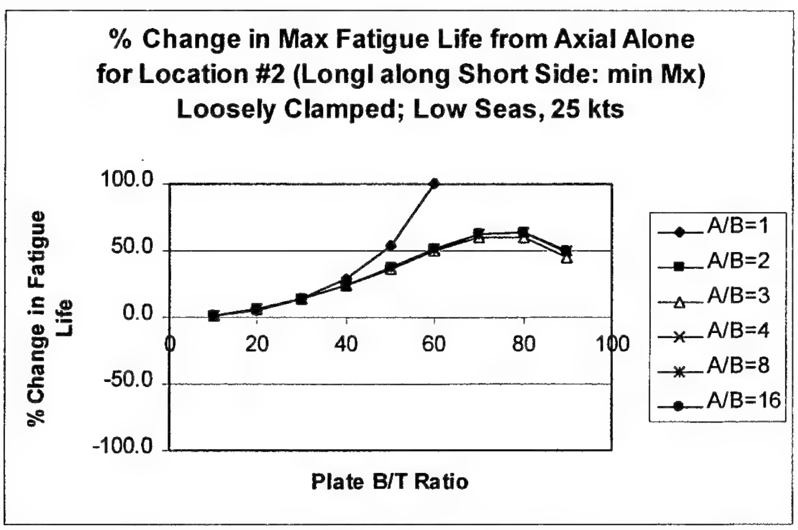
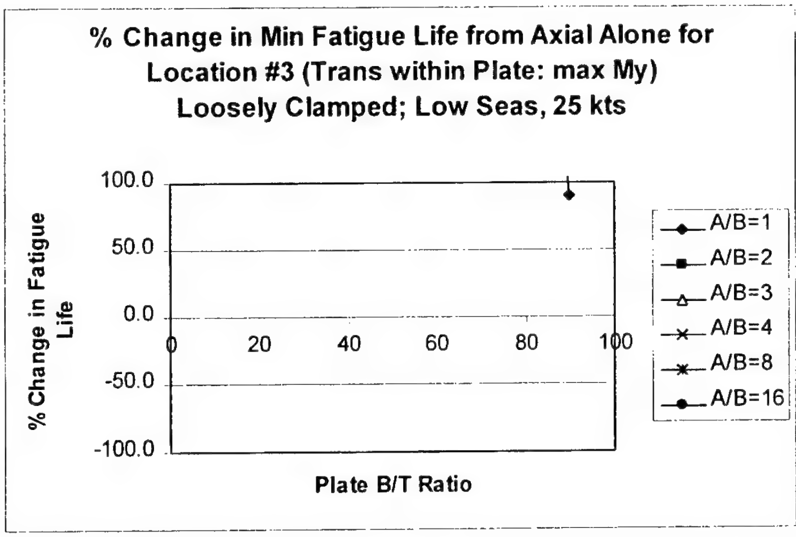
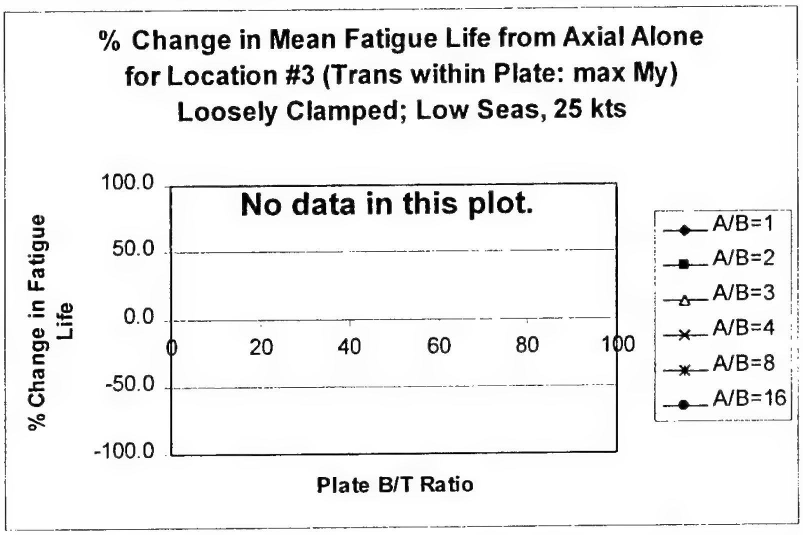


Figure 19. Fatigue Analysis with Loosely Clamped Edges in Low Seas at 25 Knots: Location #2





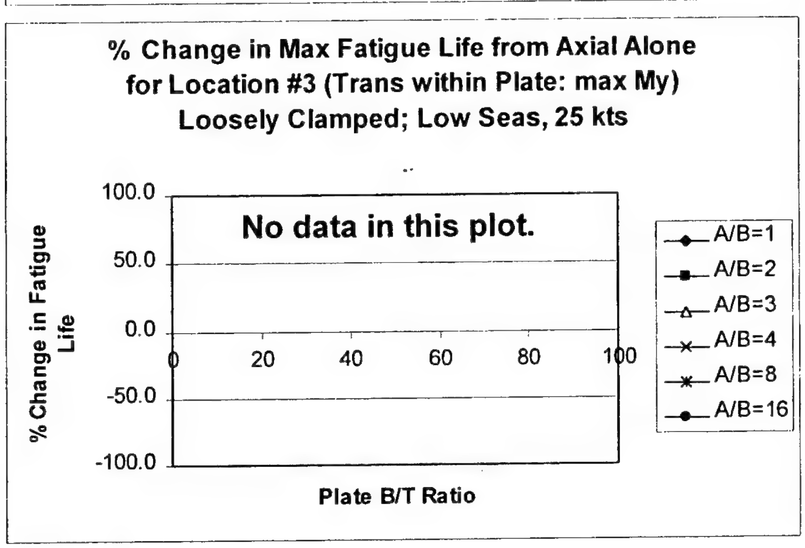
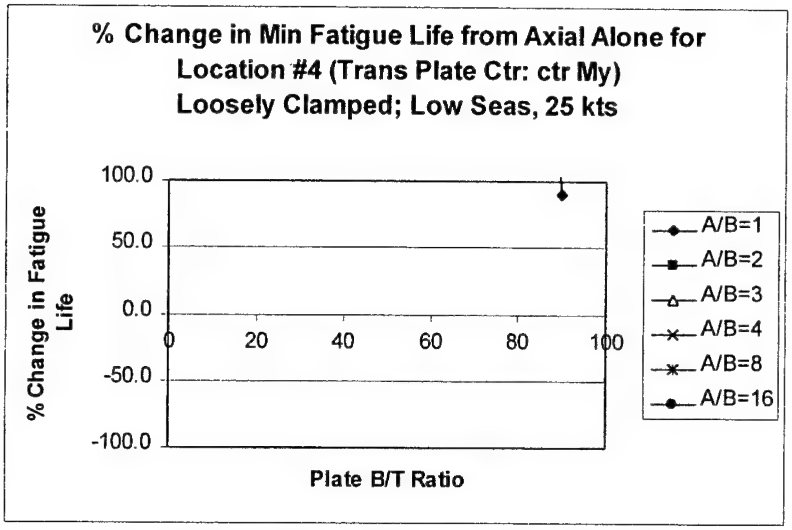
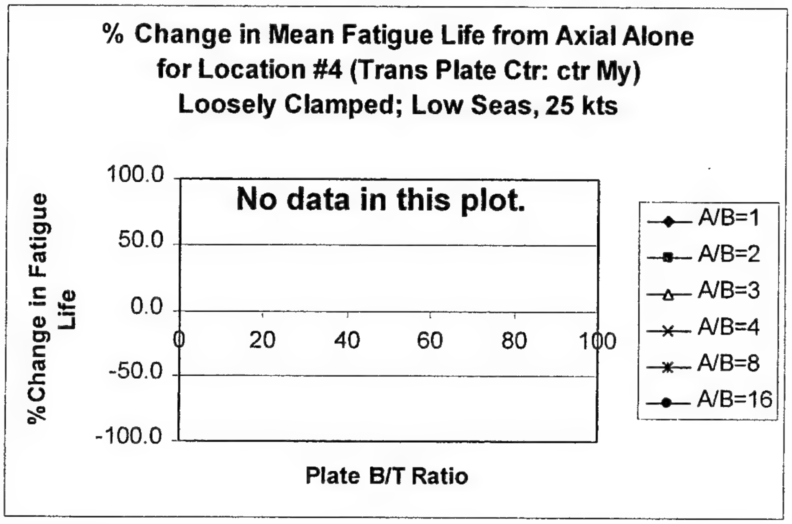


Figure 20. Fatigue Analysis with Loosely Clamped Edges in Low Seas at 25 Knots: Location #3





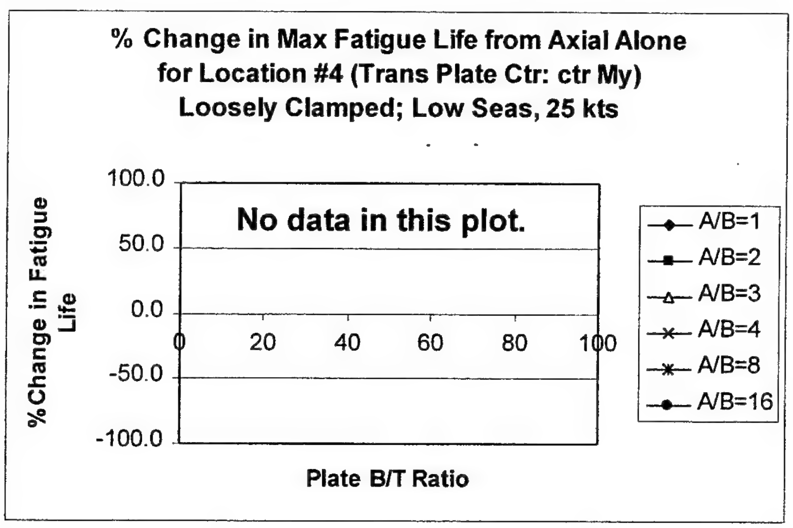


Figure 21. Fatigue Analysis with Loosely Clamped Edges in Low Seas at 25 Knots: Location #4

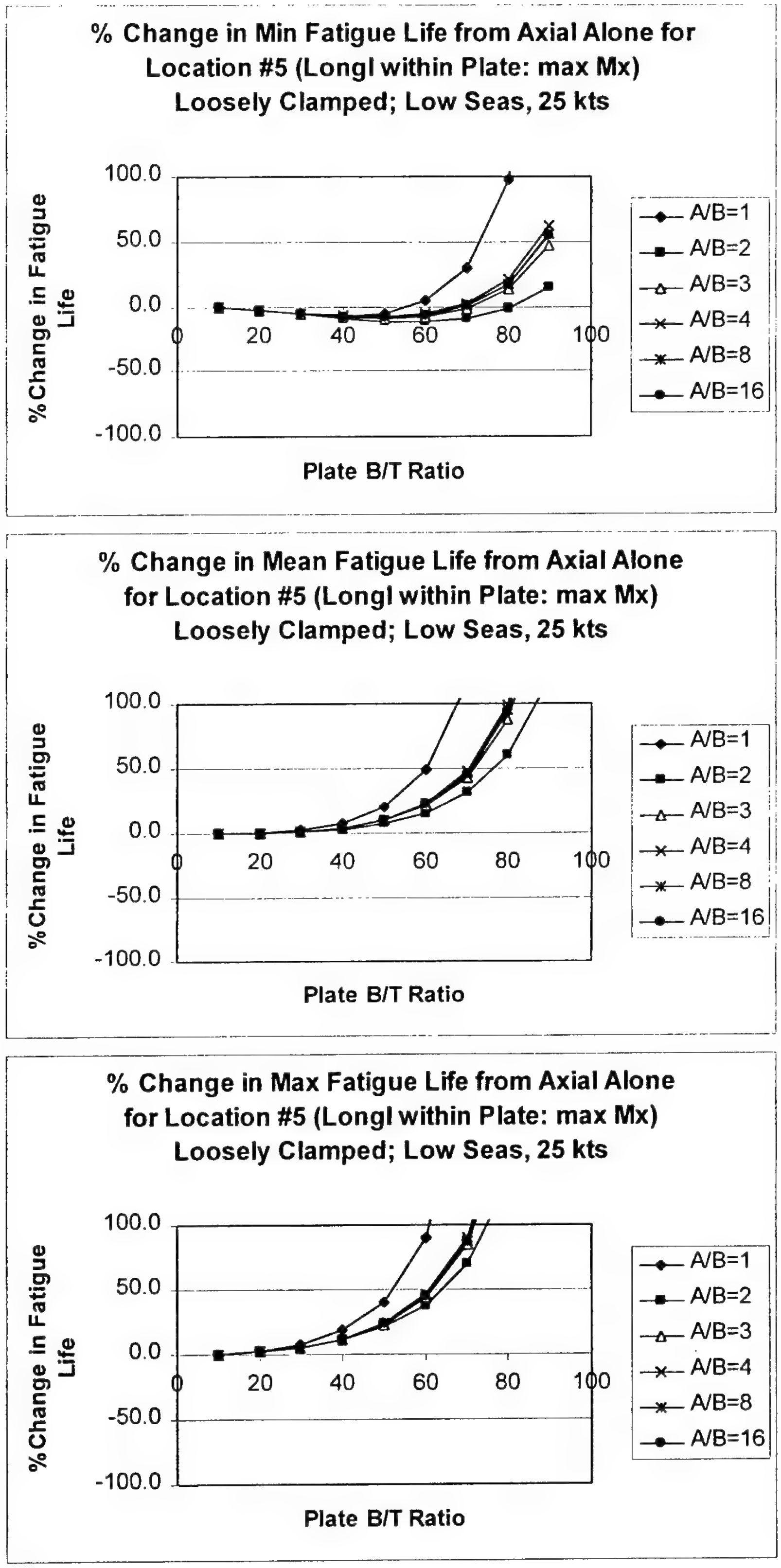


Figure 22. Fatigue Analysis with Loosely Clamped Edges in Low Seas at 25 Knots: Location #5

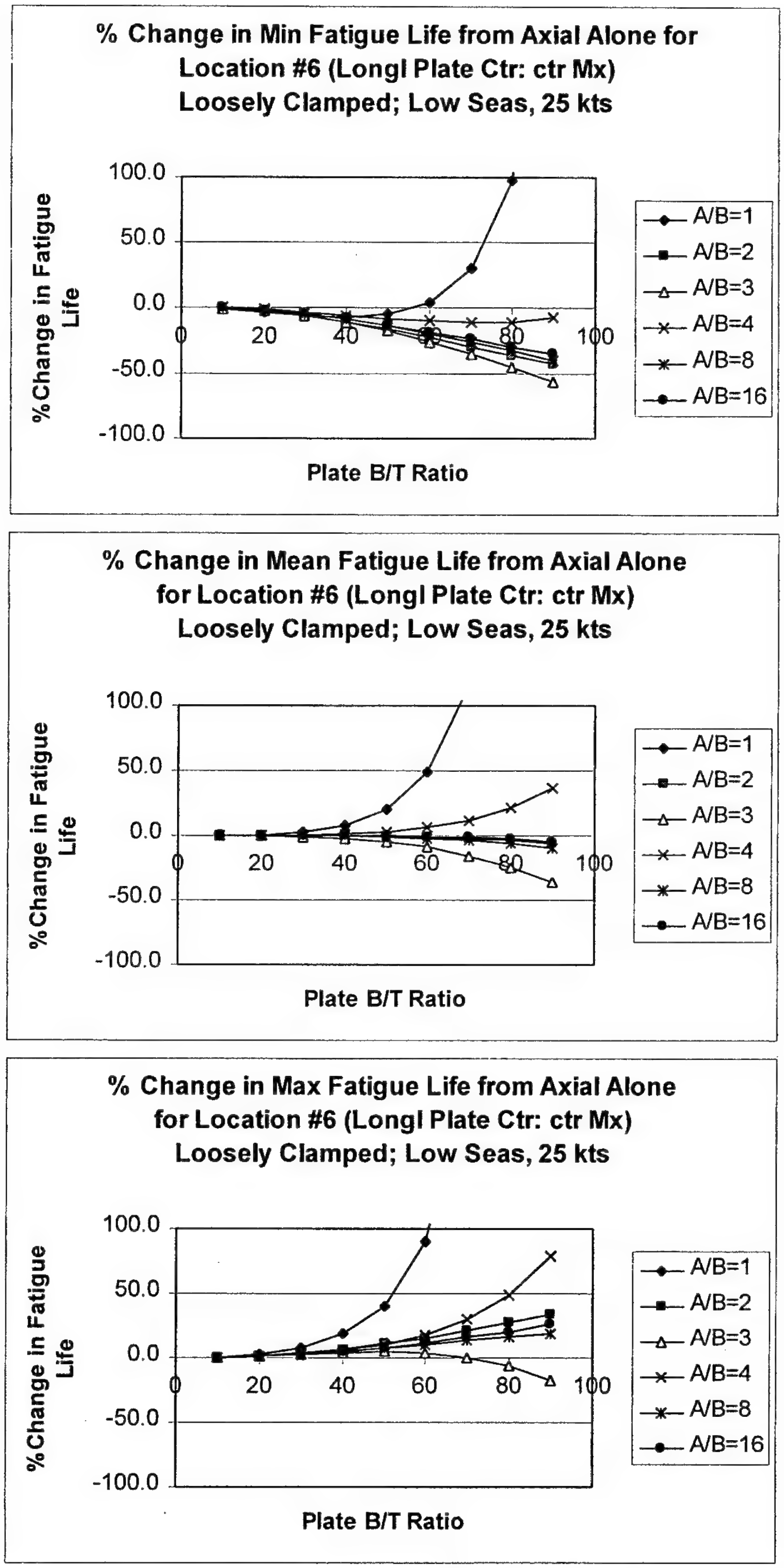
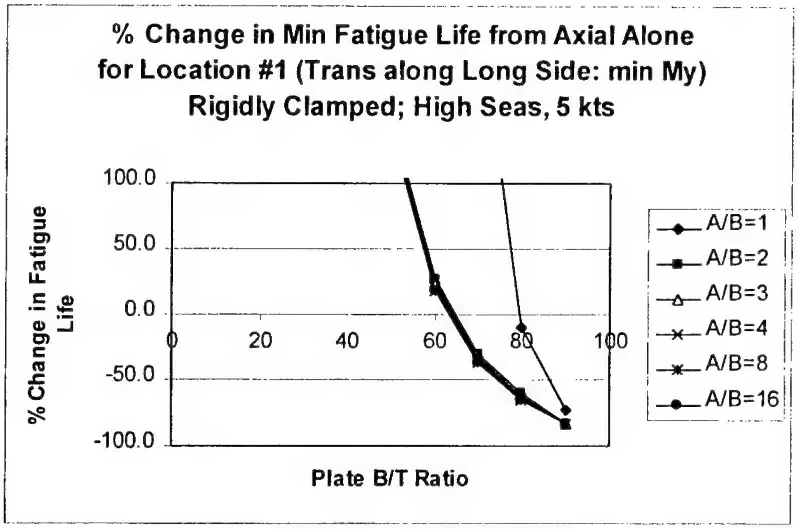
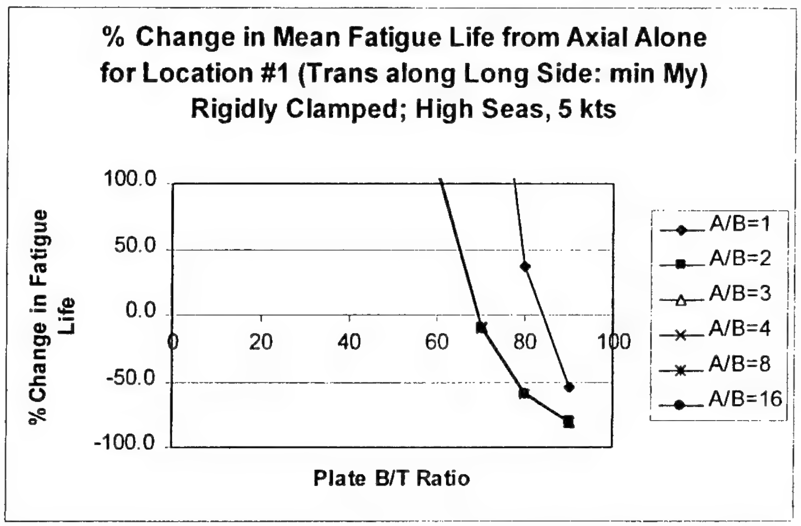


Figure 23. Fatigue Analysis with Loosely Clamped Edges in Low Seas at 25 Knots: Location #6





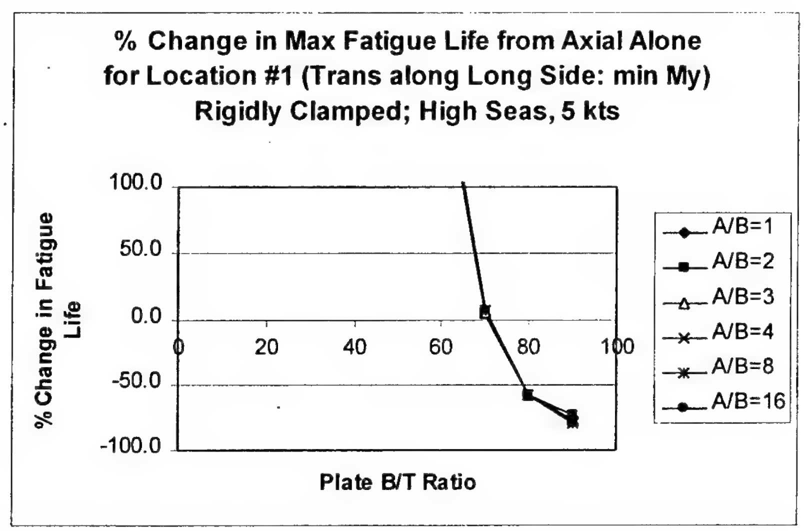


Figure 24. Fatigue Analysis with Rigidly Clamped Edges in High Seas at 5 Knots: Location #1

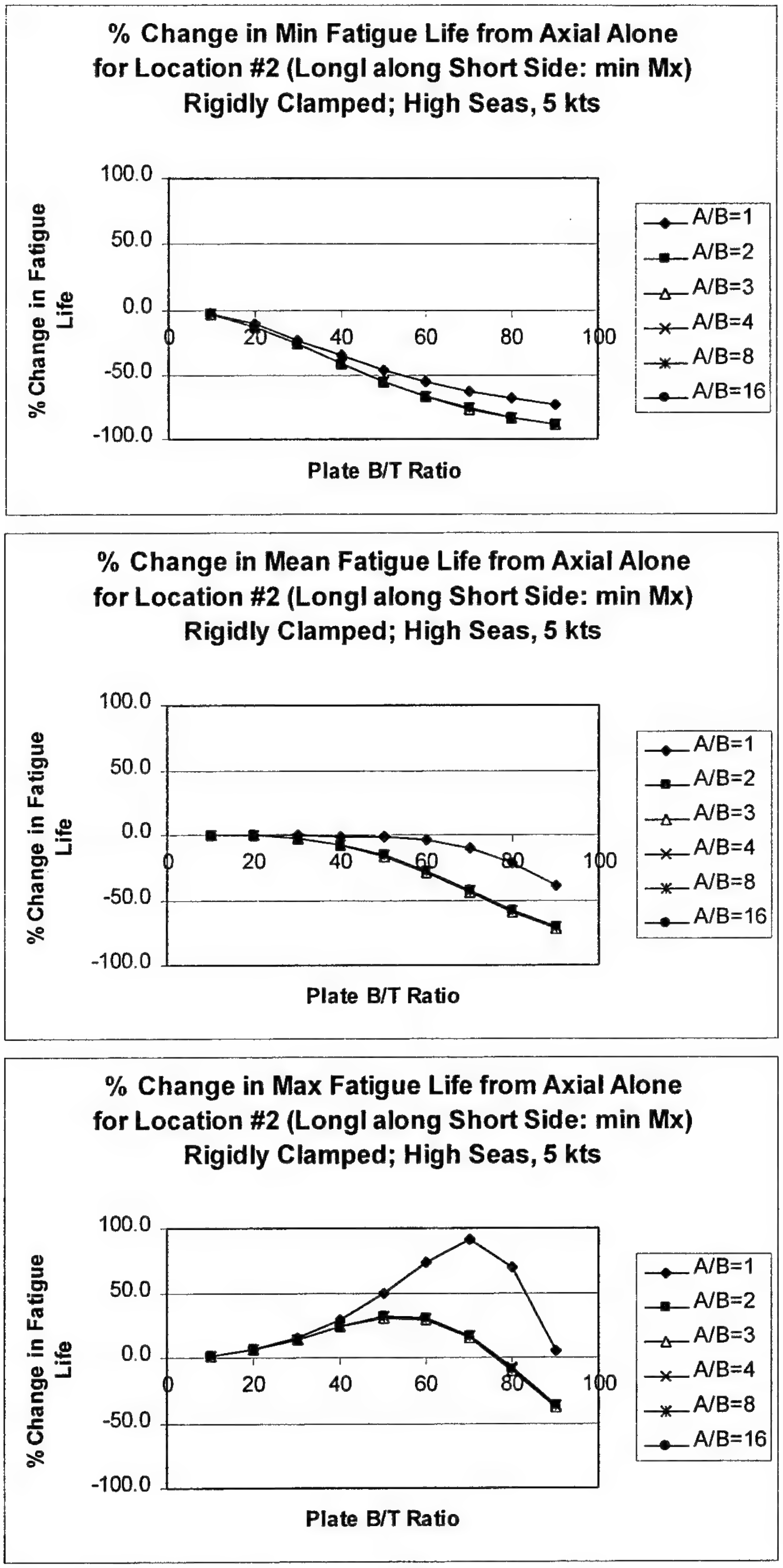
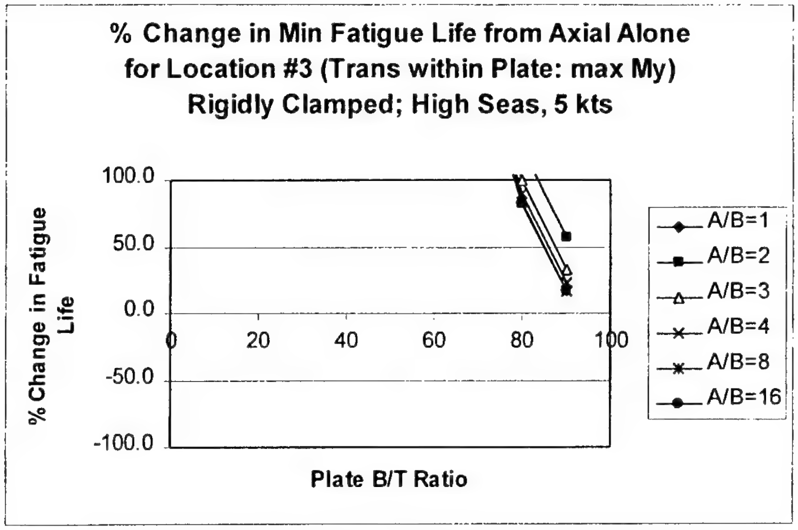
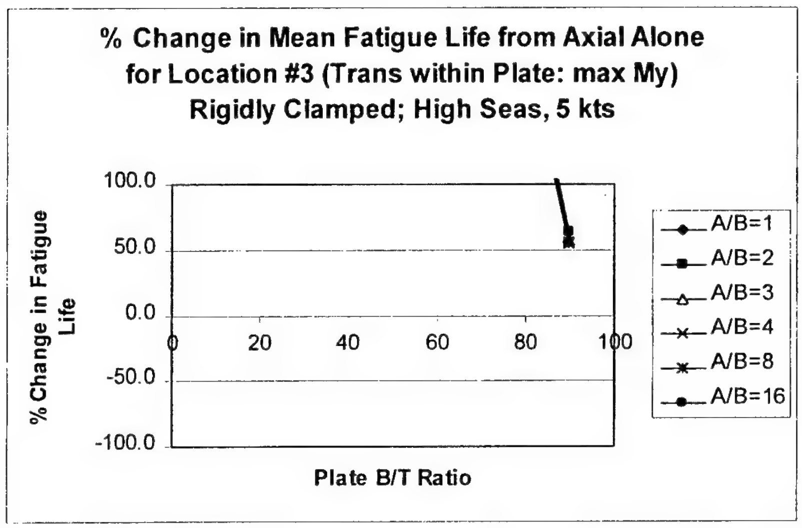


Figure 25. Fatigue Analysis with Rigidly Clamped Edges in High Seas at 5 Knots: Location #2





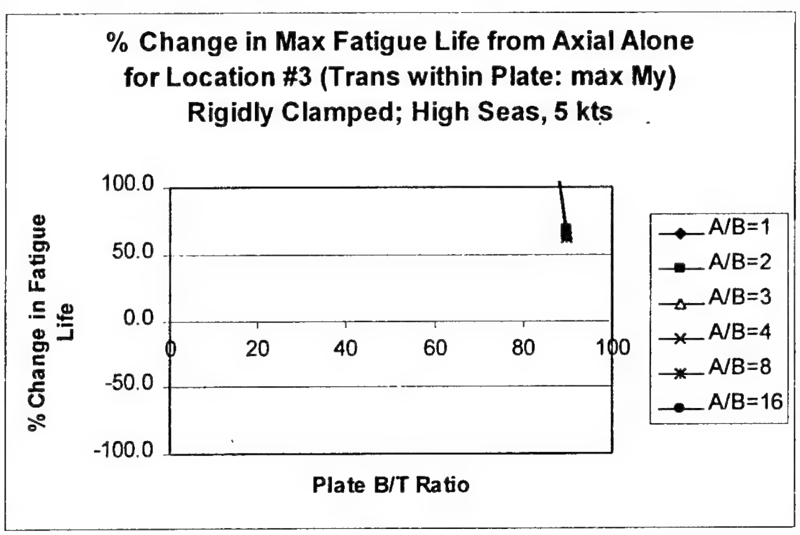


Figure 26. Fatigue Analysis with Rigidly Clamped Edges in High Seas at 5 Knots: Location #3

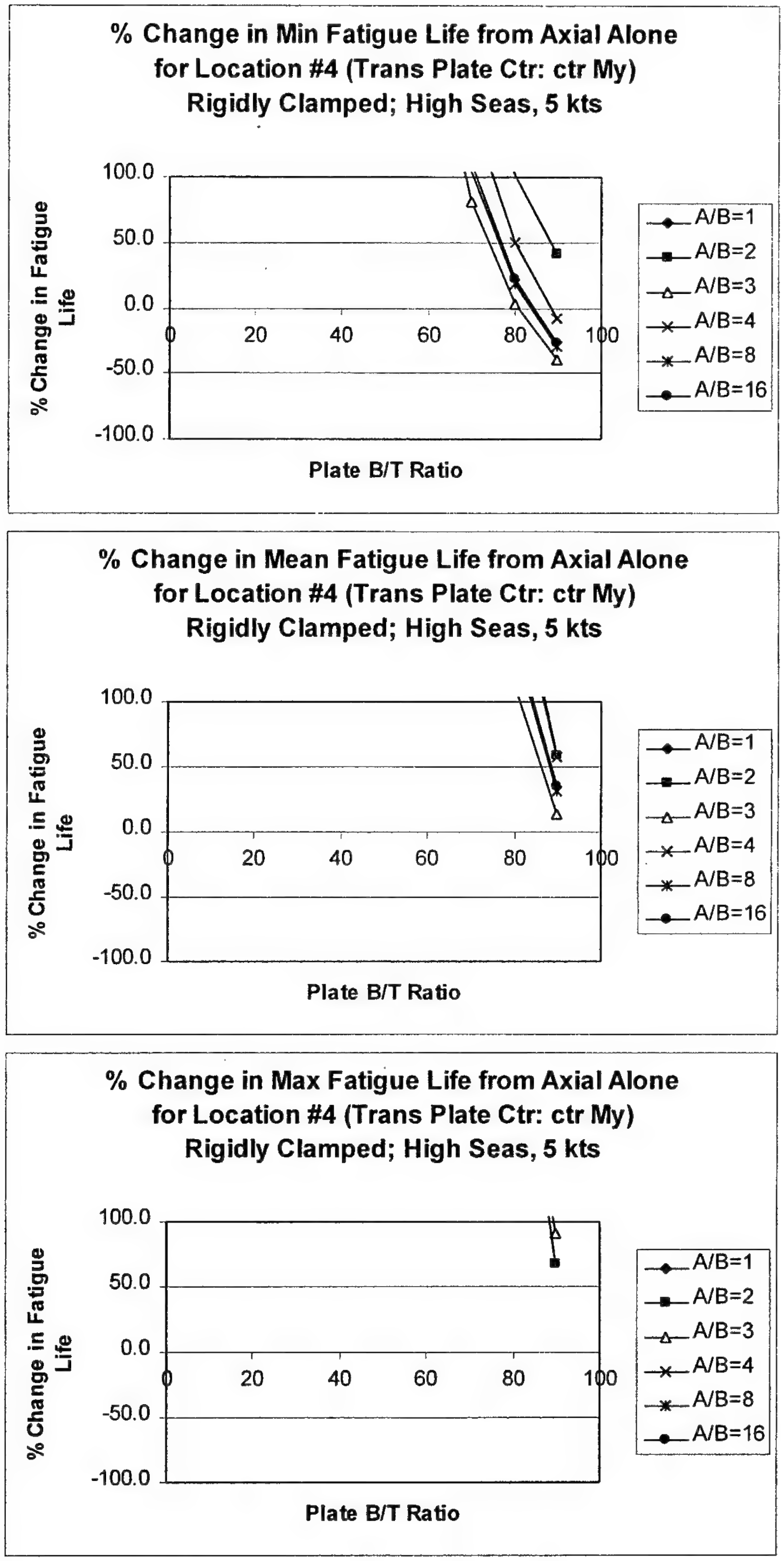
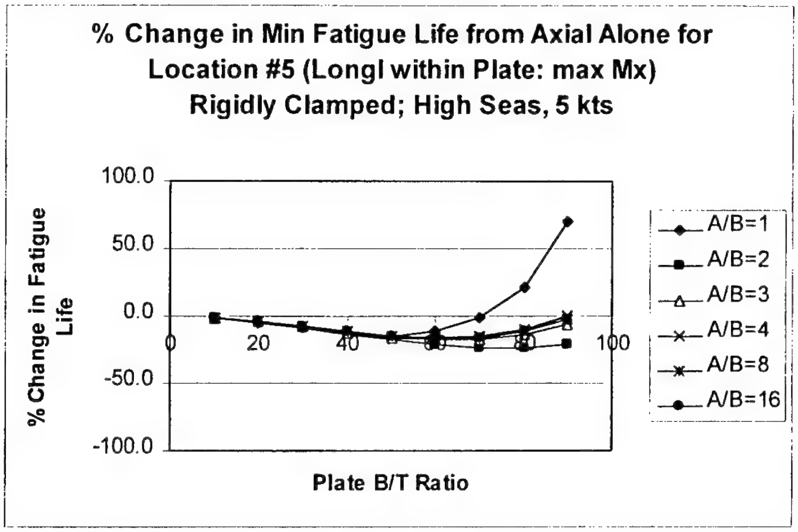
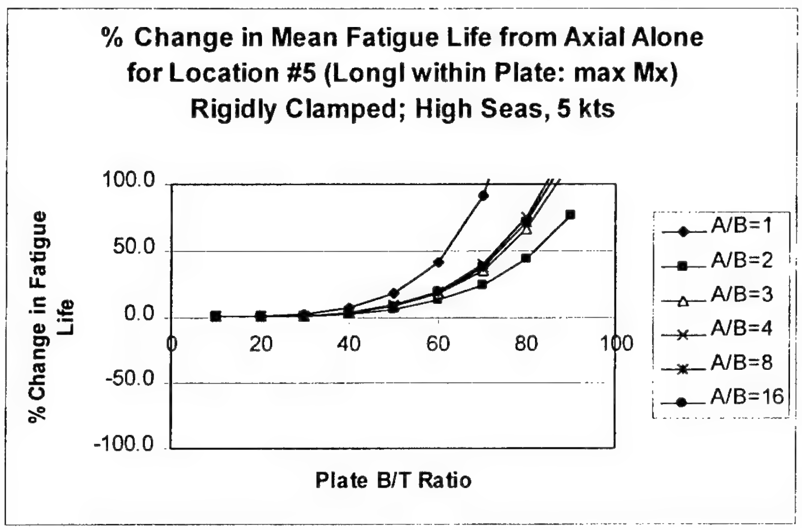


Figure 27. Fatigue Analysis with Rigidly Clamped Edges in High Seas at 5 Knots: Location #4





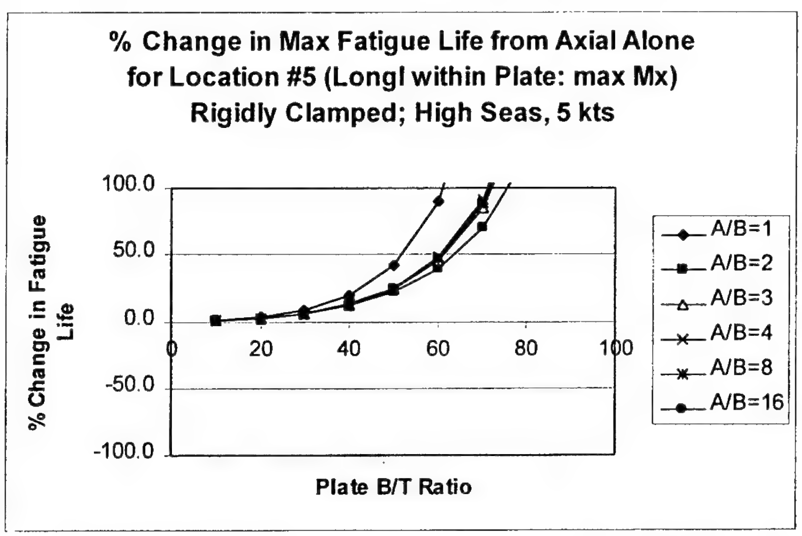
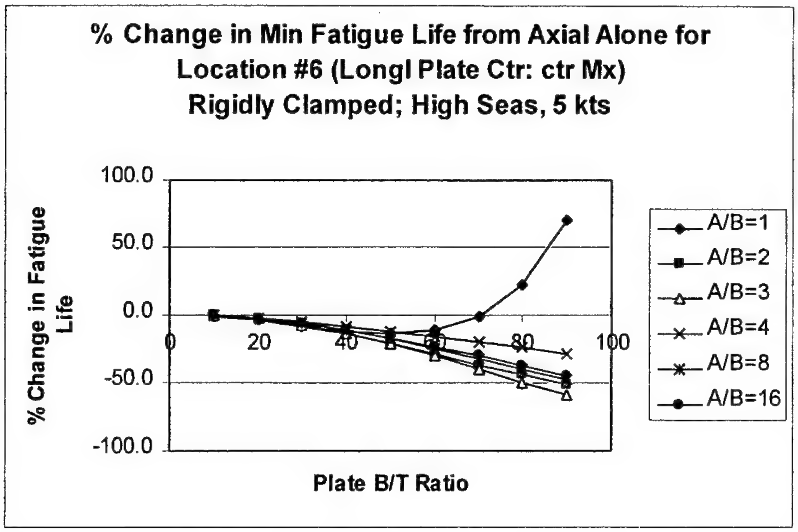
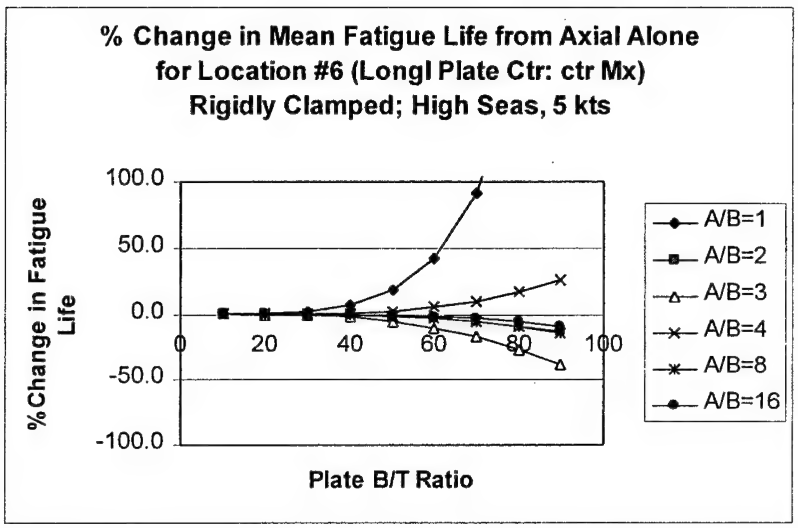


Figure 28. Fatigue Analysis with Rigidly Clamped Edges in High Seas at 5 Knots: Location #5





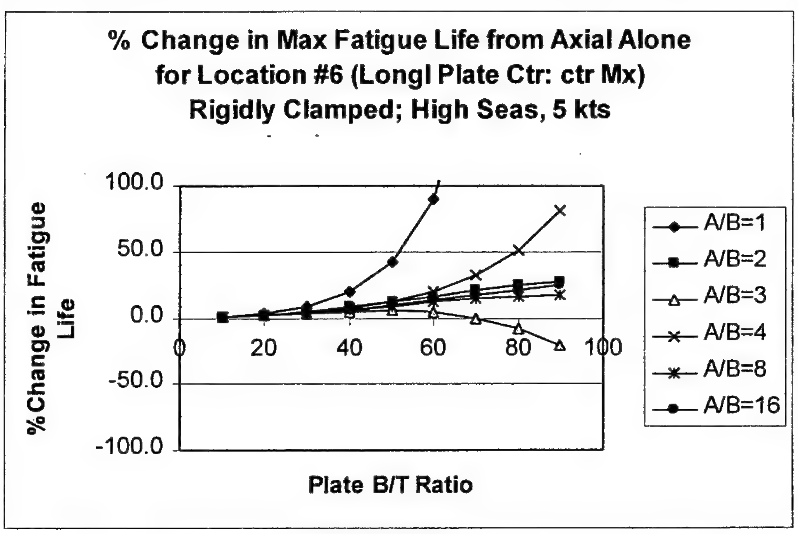
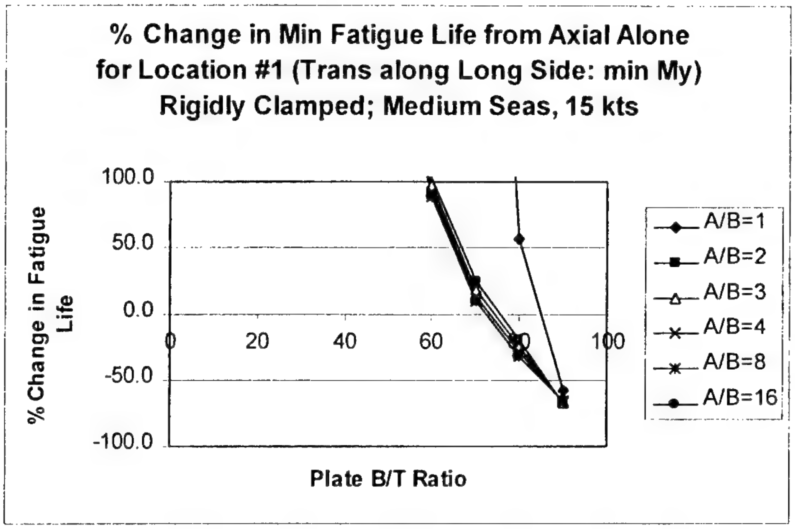
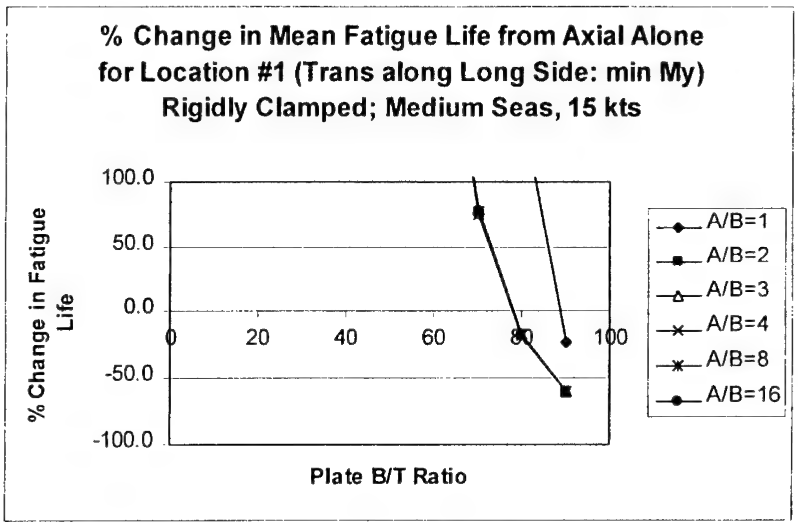


Figure 29. Fatigue Analysis with Rigidly Clamped Edges in High Seas at 5 Knots: Location #6





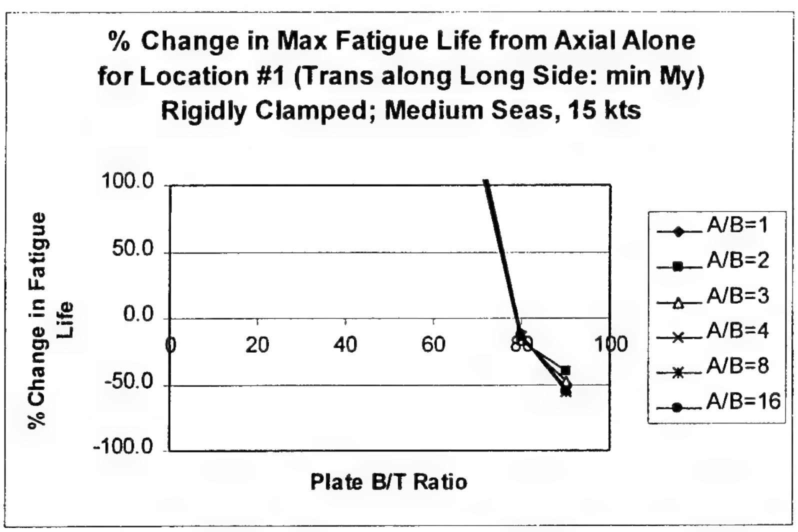
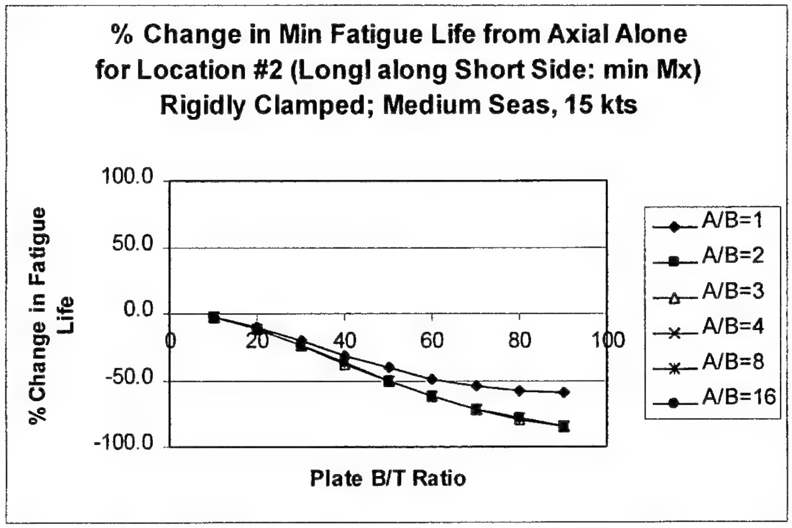
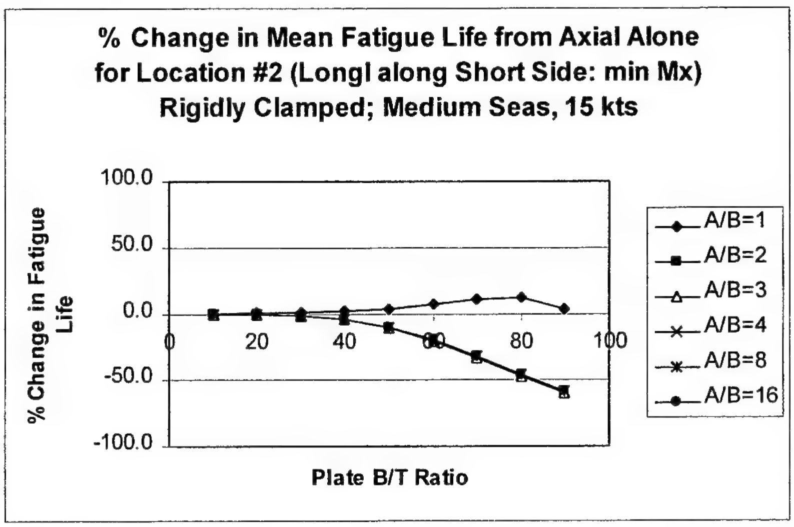


Figure 30. Fatigue Analysis with Rigidly Clamped Edges in Medium Seas at 15 Knots: Location #1





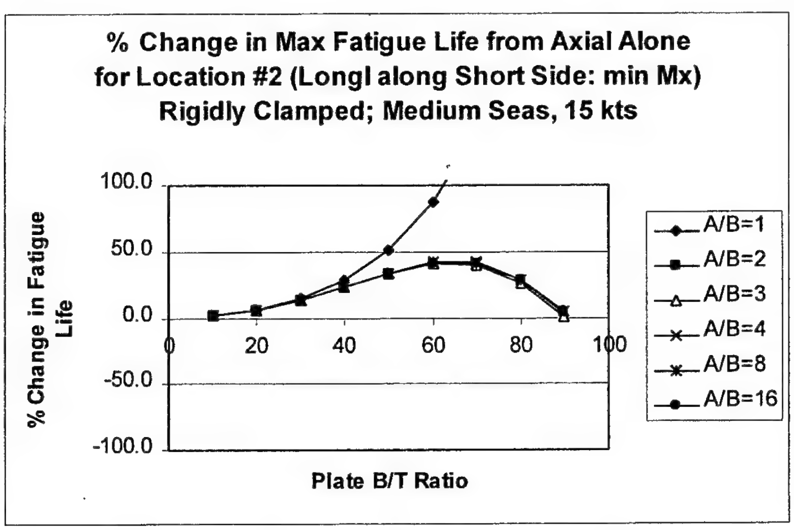
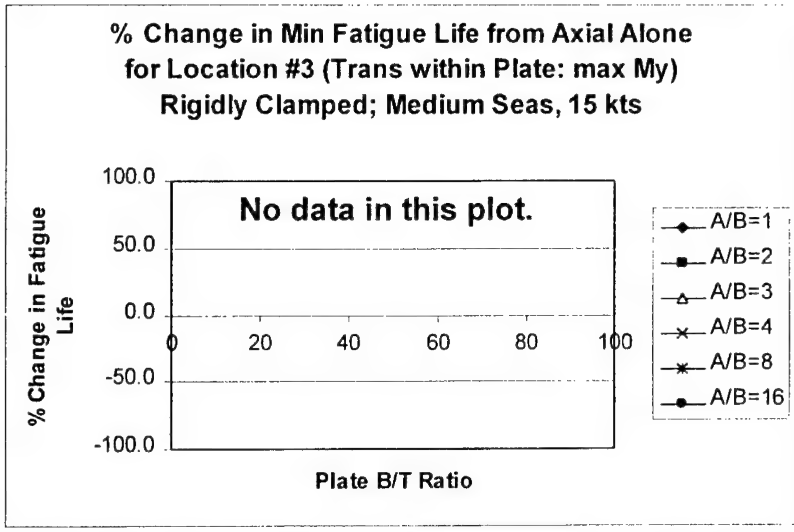
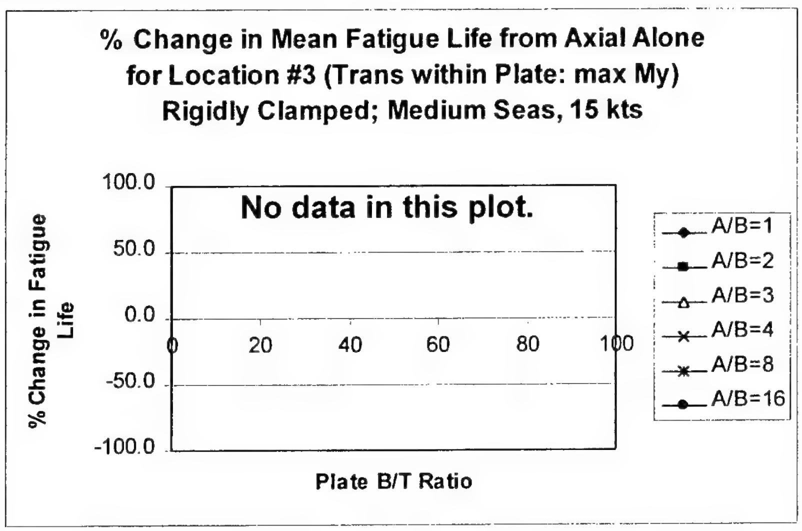


Figure 31. Fatigue Analysis with Rigidly Clamped Edges in Medium Seas at 15 Knots: Location #2





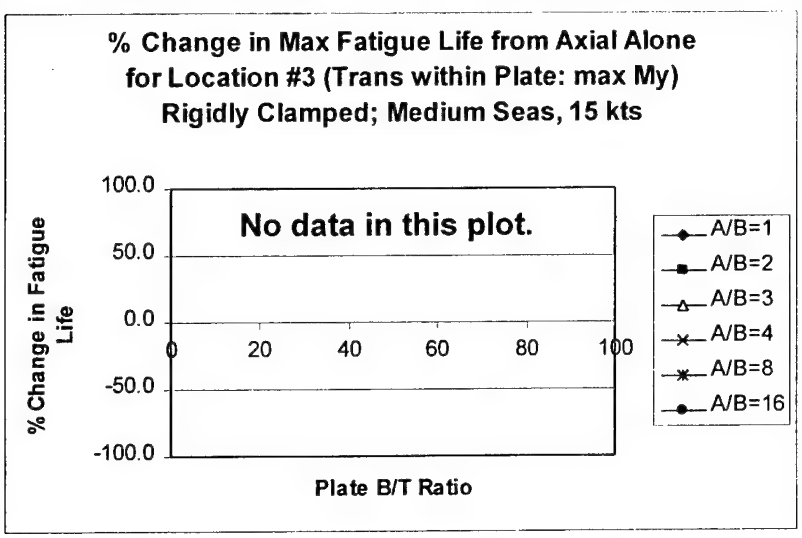
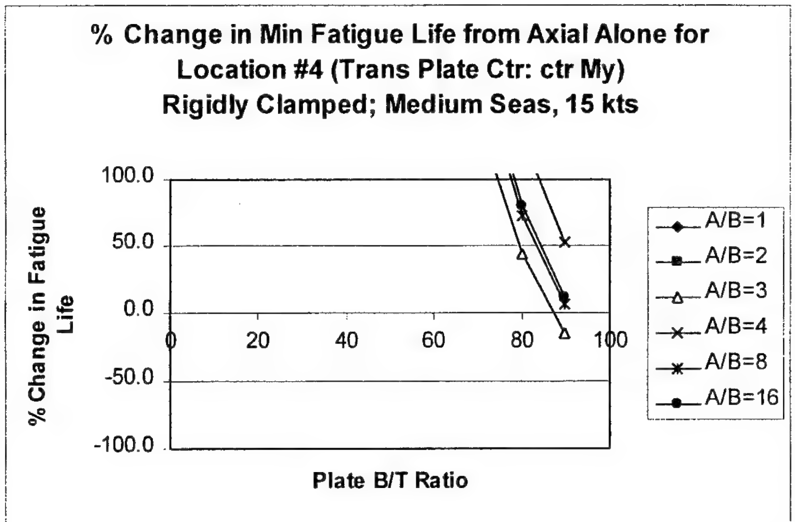
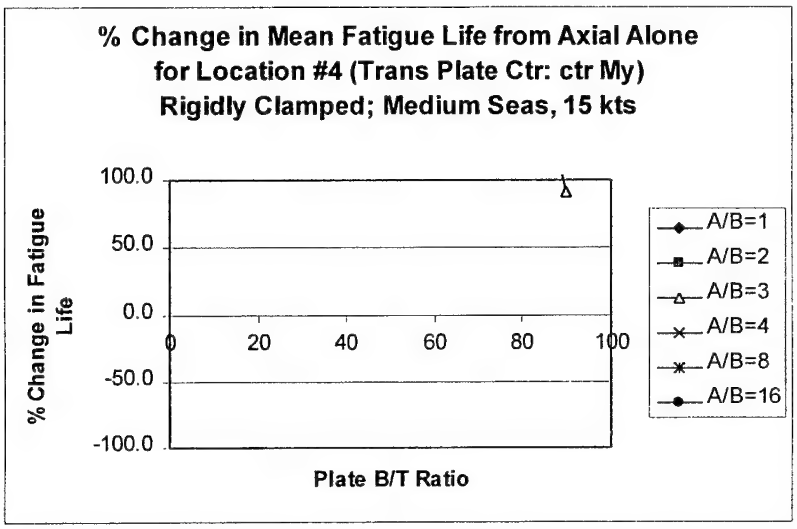


Figure 32. Fatigue Analysis with Rigidly Clamped Edges in Medium Seas at 15 Knots: Location #3





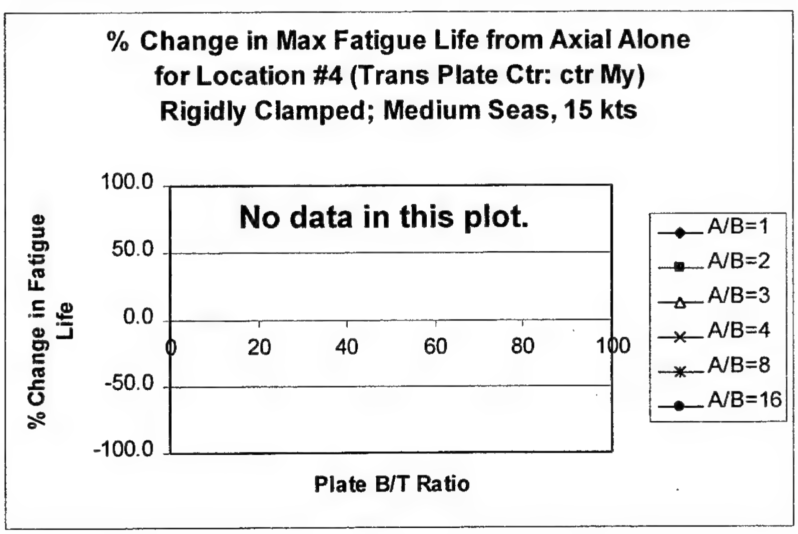
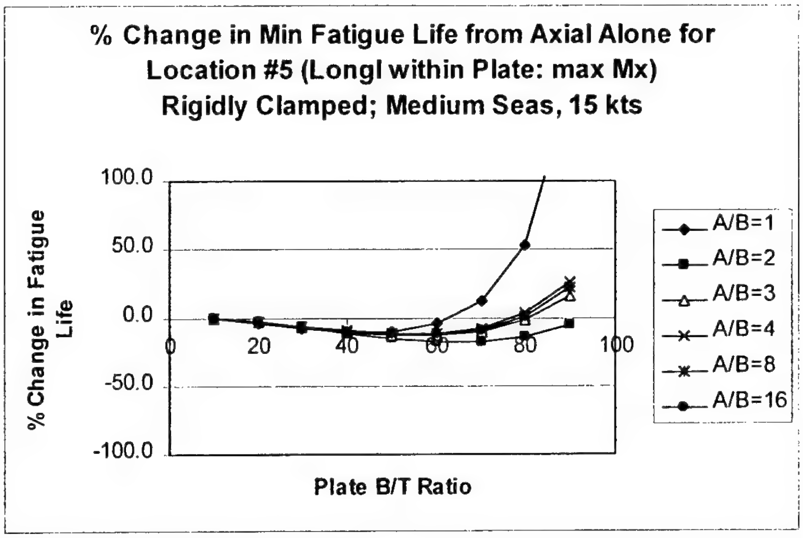
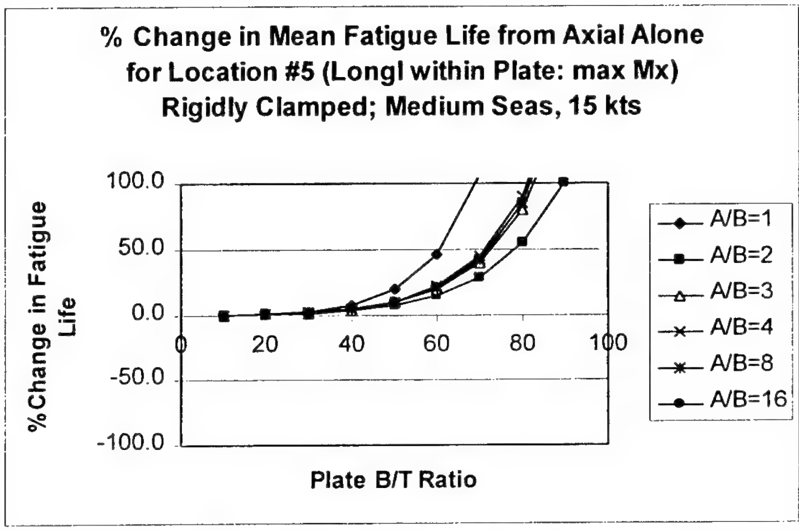


Figure 33. Fatigue Analysis with Rigidly Clamped Edges in Medium Seas at 15 Knots: Location #4





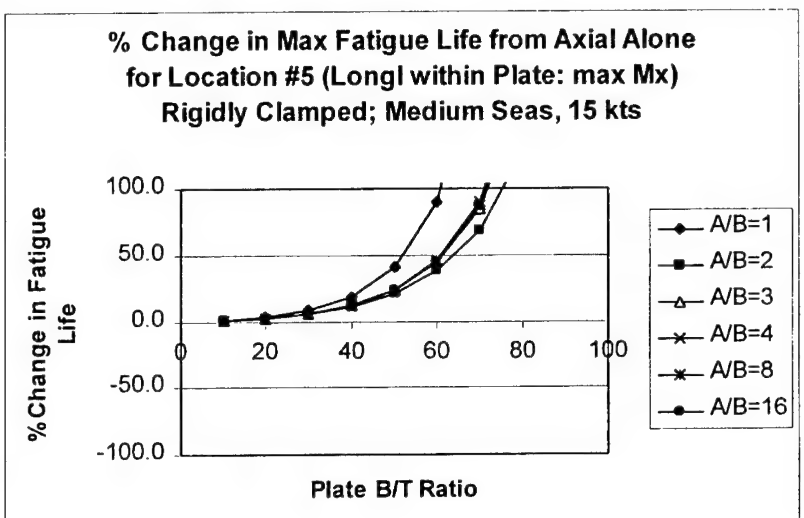
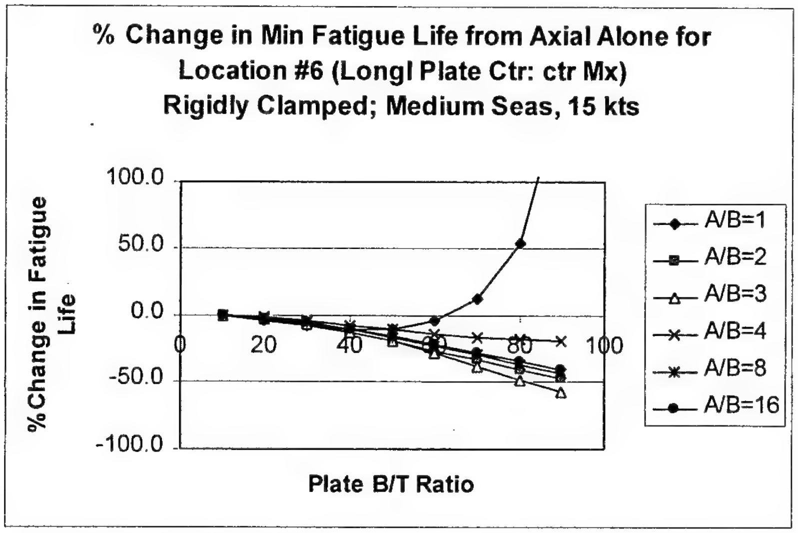
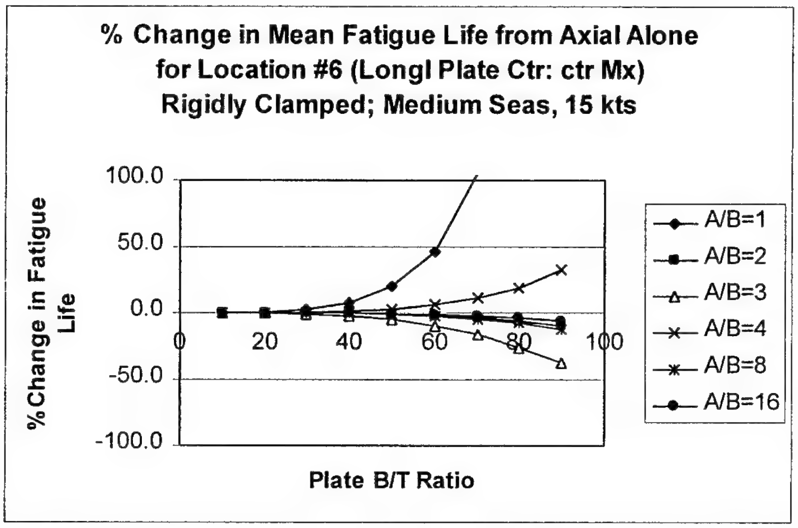


Figure 34. Fatigue Analysis with Rigidly Clamped Edges in Medium Seas at 15 Knots: Location #5





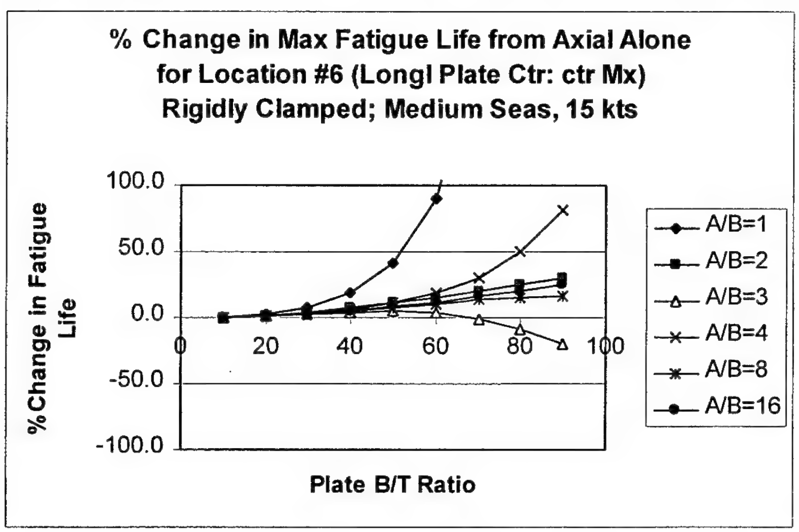
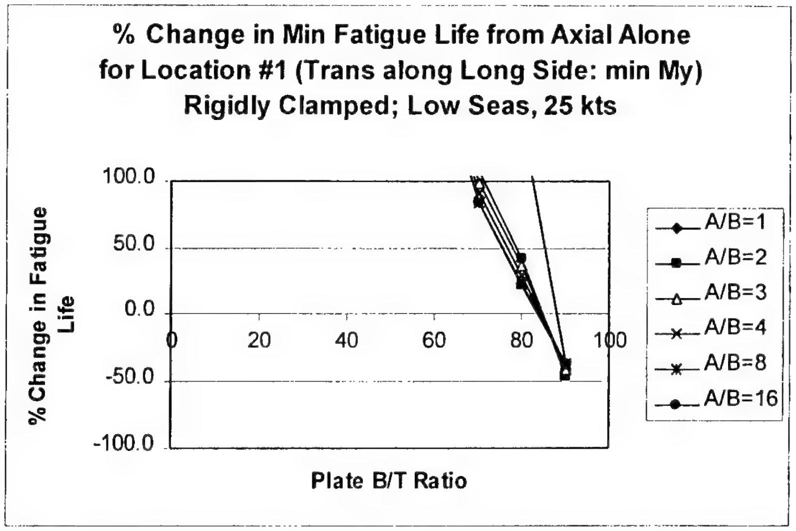
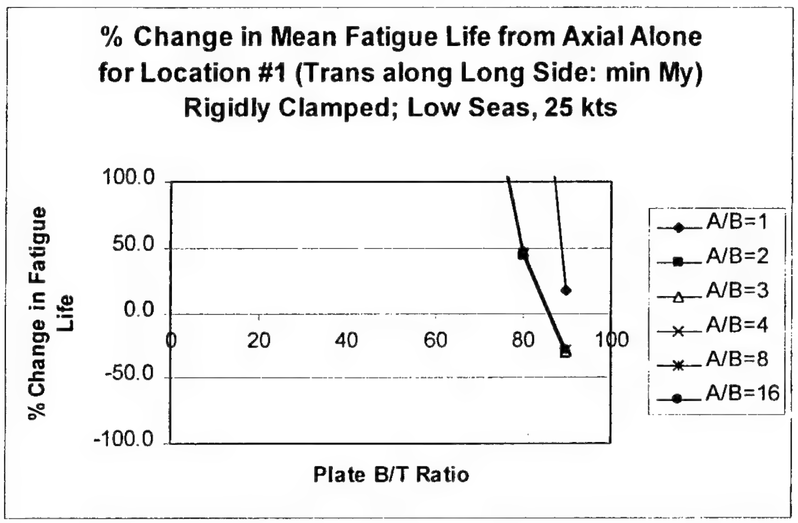


Figure 35. Fatigue Analysis with Rigidly Clamped Edges in Medium Seas at 15 Knots: Location #6





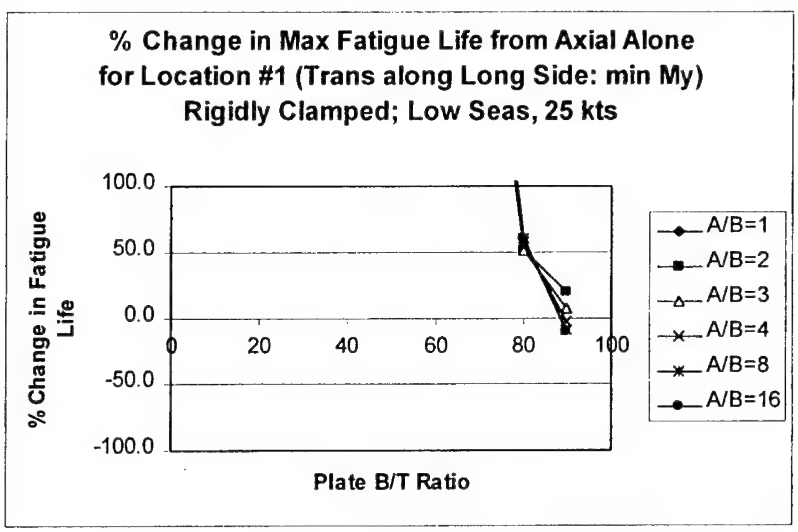


Figure 36. Fatigue Analysis with Rigidly Clamped Edges in Low Seas at 25 Knots: Location #1

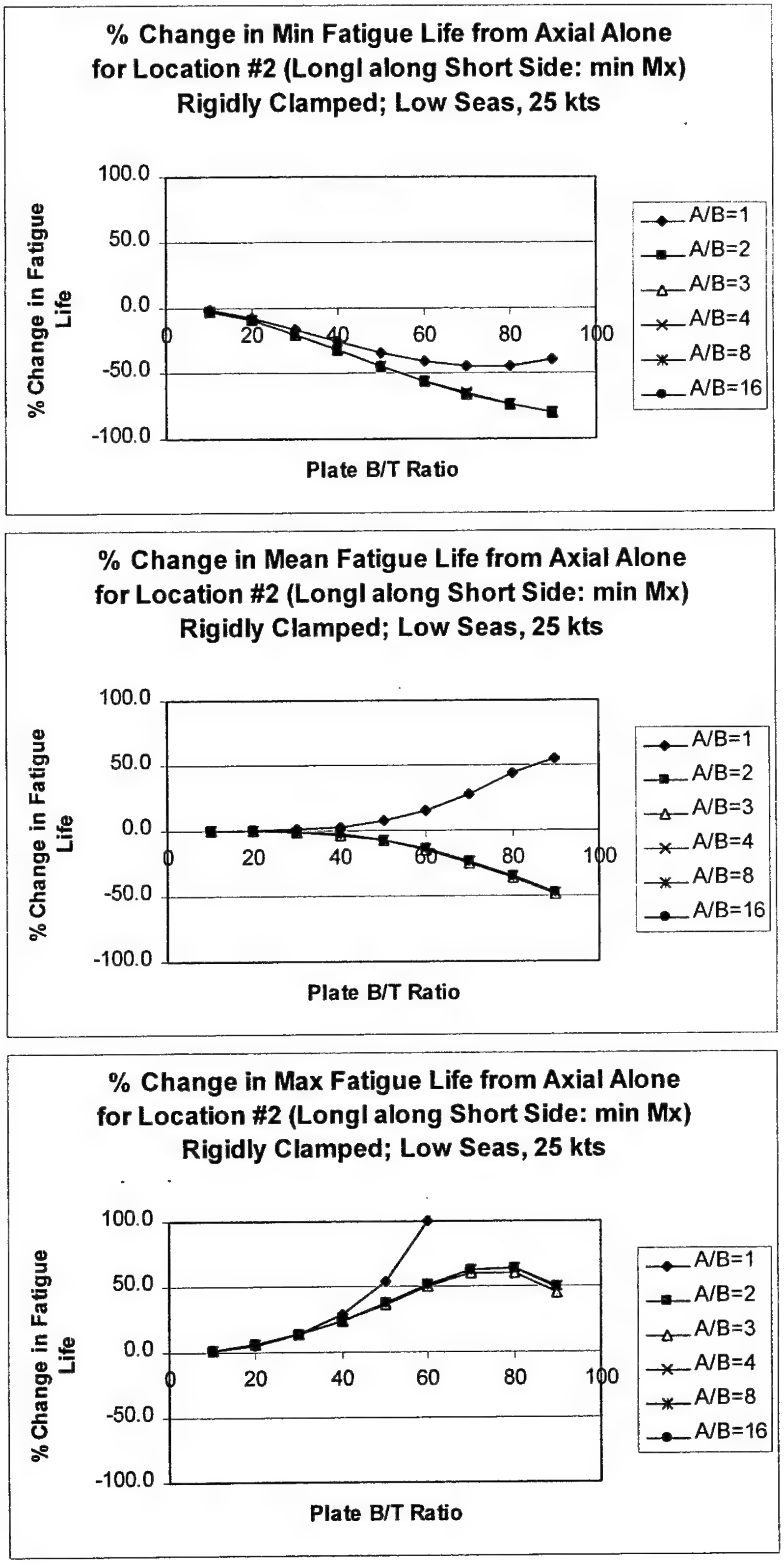
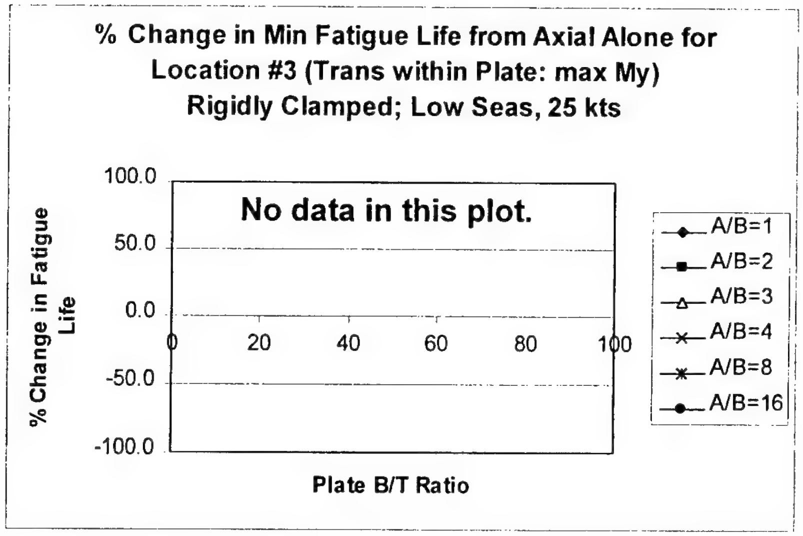
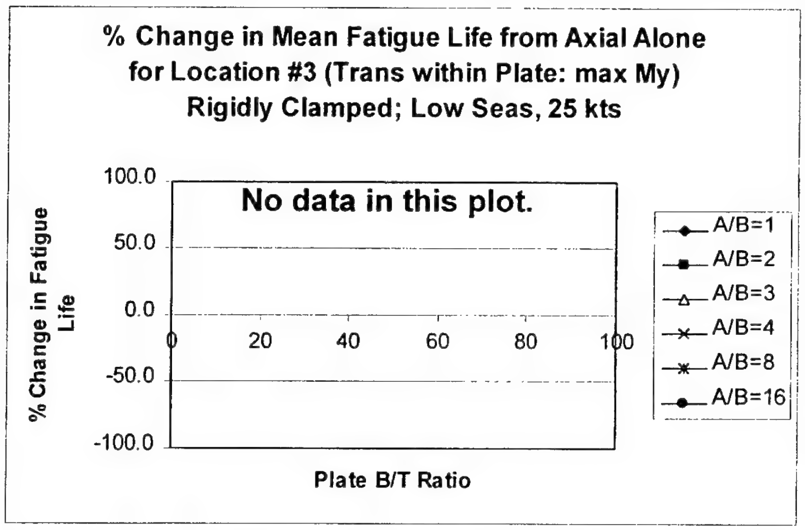


Figure 37. Fatigue Analysis with Rigidly Clamped Edges in Low Seas at 25 Knots: Location #2





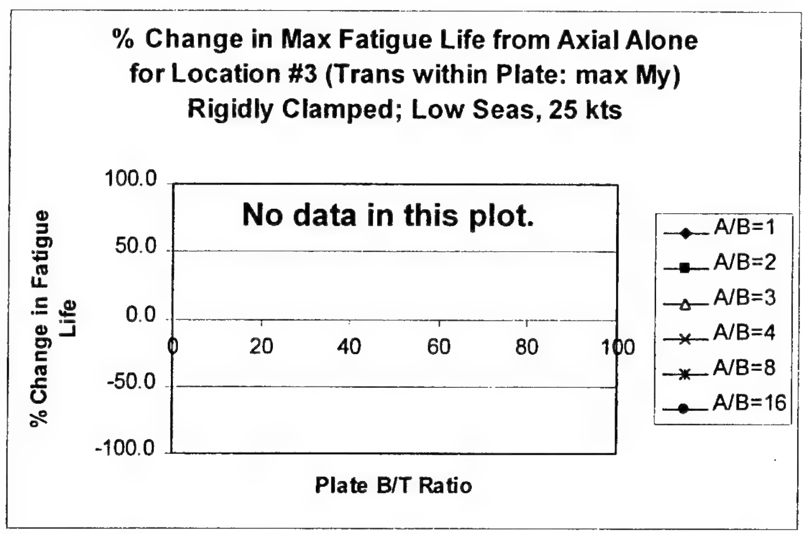
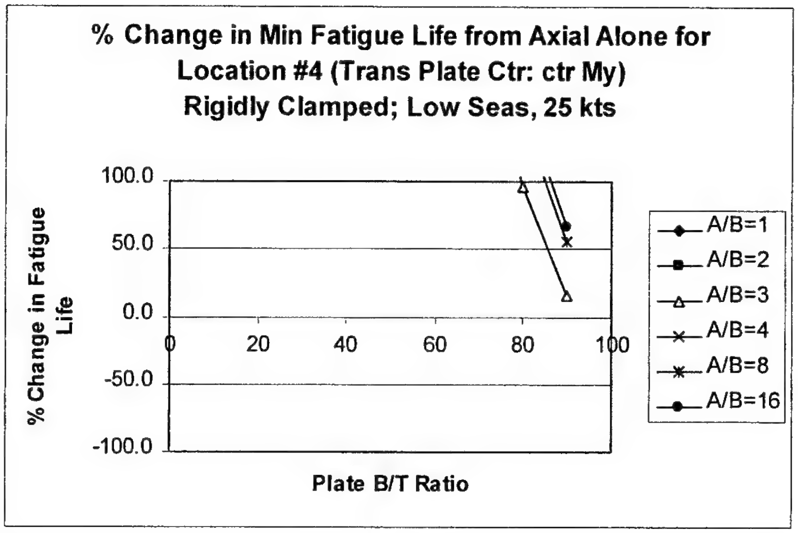
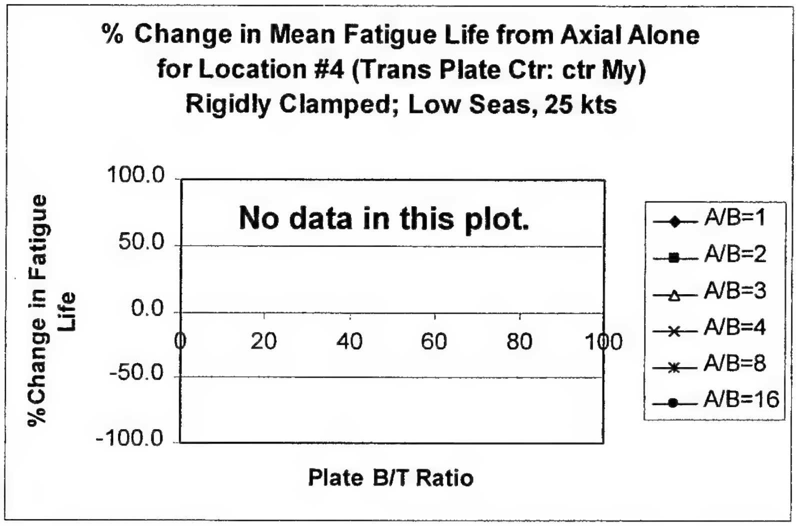


Figure 38. Fatigue Analysis with Rigidly Clamped Edges in Low Seas at 25 Knots: Location #3





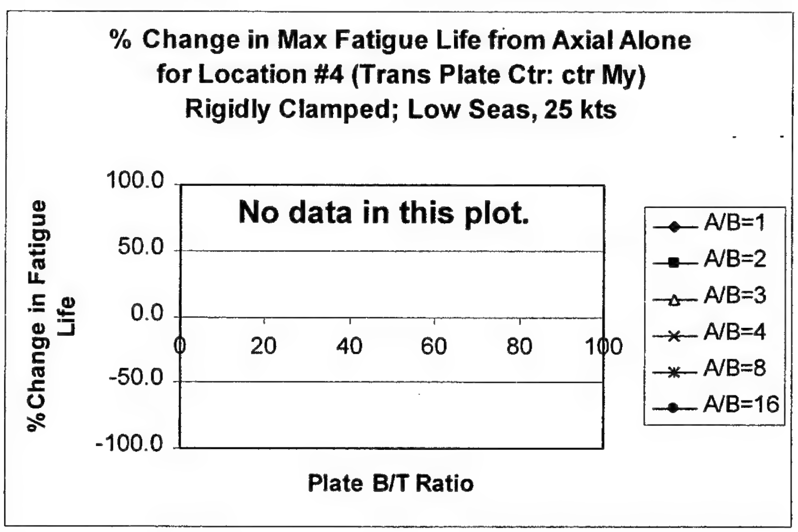
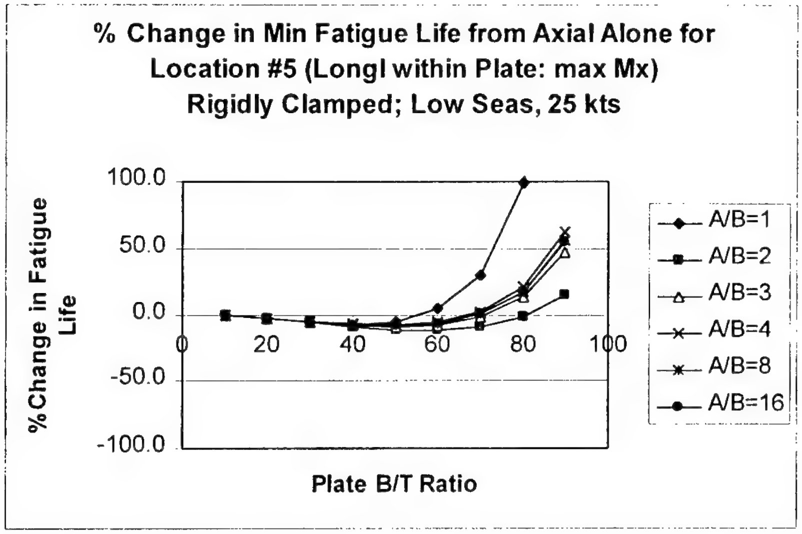
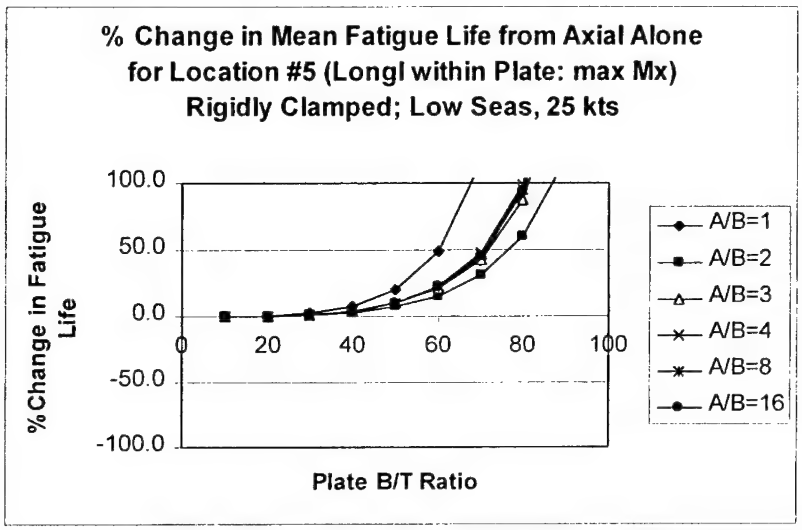


Figure 39. Fatigue Analysis with Rigidly Clamped Edges in Low Seas at 25 Knots: Location #4





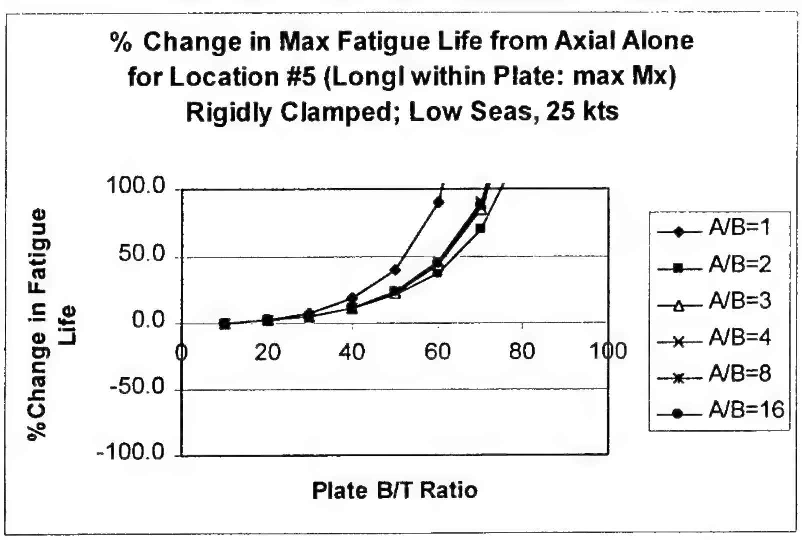
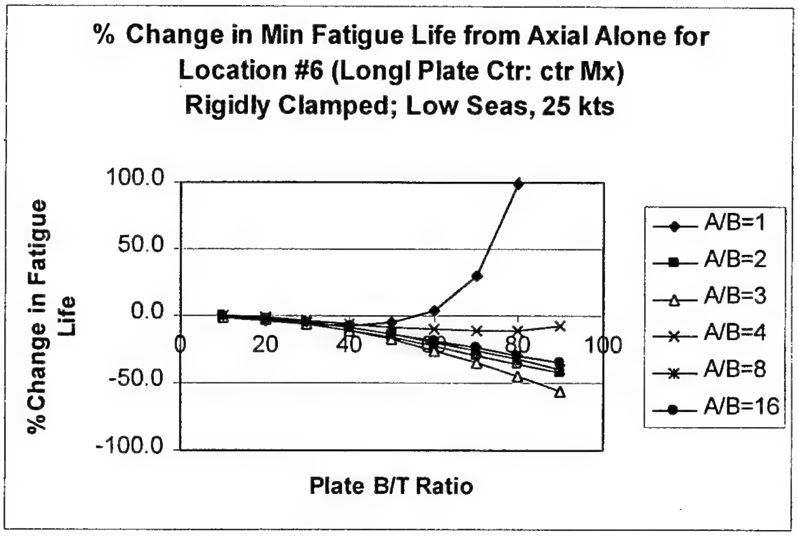
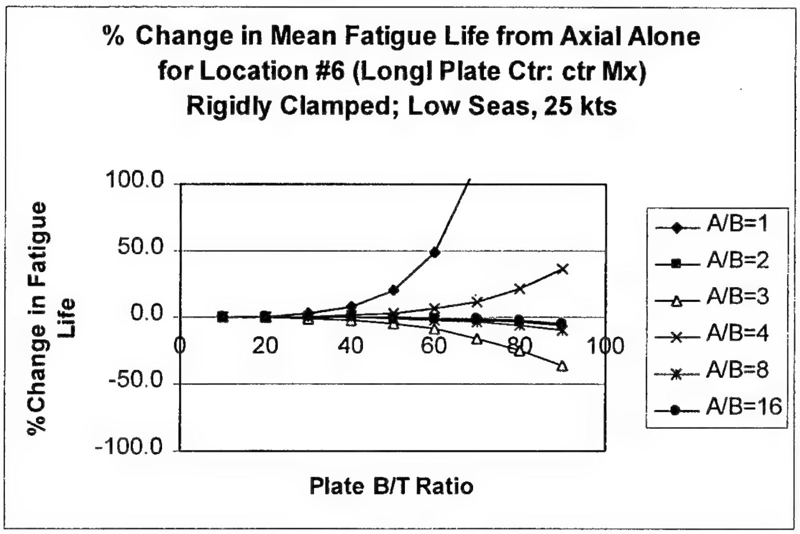


Figure 40. Fatigue Analysis with Rigidly Clamped Edges in Low Seas at 25 Knots: Location #5





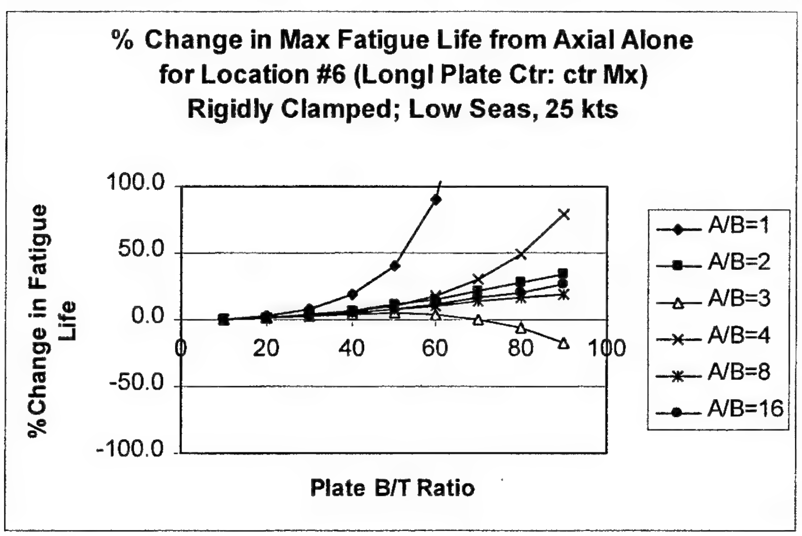


Figure 41. Fatigue Analysis with Rigidly Clamped Edges in Low Seas at 25 Knots: Location #6

Table 1. Polynomial Coefficients Representing Bending/Axial Stress Interaction

A/B	Loosely Clamped					
	A Coefficients					
	min My	min Mx	max My	ctr My	max Mx	ctr Mx
1	-0.29741	-0.30398	0.131118	0.131118	0.129636	0.129636
2	-0.49537	-0.33984	0.245396	0.249408	0.104737	0.098754
3	-0.49122	-0.34119	0.243951	0.258915	0.101499	0.083029
4	-0.49097	-0.33973	0.243732	0.241474	0.098858	0.064661
8	-0.49226	-0.33982	0.24455	0.251975	0.099822	0.077466
16	-0.49235	-0.33982	0.244607	0.250133	0.099877	0.075167
	B Coefficients					
1	0.143226	0.071127	-0.09035	-0.09035	-0.10081	-0.10081
2	0.073301	0.003201	-0.04478	-0.03768	-0.03967	-4.9E-05
3	0.066503	0.001509	-0.04073	0.014447	-0.05015	0.021601
4	0.061423	0.00342	-0.03781	-0.01359	-0.05365	-0.01643
8	0.057546	0.003245	-0.03537	0.0026	-0.05224	0.003284
16	0.057409	0.003245	-0.0353	0.000171	-0.05215	0.000216
	C Coefficients					
1	-0.06605	-0.02473	0.042597	0.042597	0.05049	0.05049
2	-0.01212	0.002276	0.008203	-0.00018	0.017182	-0.0111
3	-0.04547	0.001199	0.028191	-0.02492	0.026819	-0.02129
4	-0.05065	-0.00161	0.031635	0.014807	0.031439	0.02046
8	-0.04981	-0.00142	0.031099	-0.00347	0.029638	-0.00436
16	-0.04965	-0.00142	0.031004	-0.00023	0.029531	-0.00029

A/B	Rigidly Clamped					
	A Coefficients					
	min My	min Mx	max My	ctr My	max Mx	ctr Mx
1	-0.29756	-0.30393	0.13111	0.13111	0.12948	0.12948
2	-0.49536	-0.33973	0.24549	0.24945	0.10469	0.09873
3	-0.49125	-0.34116	0.24396	0.25888	0.10148	0.08304
4	-0.49099	-0.33968	0.24368	0.24148	0.0989	0.06465
8	-0.49226	-0.33972	0.24453	0.252	0.09986	0.07746
16	-0.49236	-0.33976	0.2446	0.25015	0.09989	0.07517
	B Coefficients					
1	0.14323	0.07106	-0.09033	-0.09033	-0.1008	-0.1008
2	0.07325	0.00316	-0.04468	-0.03767	-0.03962	-0.00002
3	0.06649	0.00141	-0.04075	0.01448	-0.05014	0.0216
4	0.06142	0.00348	-0.0378	-0.01366	-0.05369	-0.01643
8	0.05755	0.0033	-0.03533	0.00265	-0.05227	0.00328
16	0.05736	0.00325	-0.03524	0.00019	-0.05215	0.00021
	C Coefficients					
1	-0.06601	-0.02472	0.04259	0.04259	0.05056	0.05056
2	-0.01206	0.00214	0.00815	-0.00014	0.01718	-0.0111
3	-0.04544	0.00119	0.02822	-0.0249	0.02683	-0.02129
4	-0.05063	-0.00168	0.03166	0.01486	0.03143	0.02047
8	-0.04983	-0.00159	0.03108	-0.00352	0.02962	-0.00436
16	-0.04958	-0.00152	0.03095	-0.00026	0.02951	-0.00029

Table 2. Details of Axial Stress and Wave Amplitude Time History Simulations

Detail	High Seas	Medium Seas	Low Seas
	5 knots	15 knots	25 knots
Delta t (seconds)	0.32766	0.22825	0.17512
# points	80000	114843	149685
RMS Axial Stress (ksi)	5	4.025	1.748
# Peaks	2219	5374	6637
# Zero Crossings	1870	4353	5439
# Extrema	4438	10747	13273
Irregularity Factor	0.84272	0.81001	0.8195
RMS Wave Amplitude (ft)	5.125	3.075	1.025
# Peaks	2469	6825	9398
#Zero Crossings	1586	4378	6508
#Extrema	4938	13649	18795
Irregularity Factor	0.64237	0.64147	0.69249

Table 3. S/N Curve Parameters for Various Weldment Configurations

Configuration	Type of Steel	Fabricator	Thickness of Specimen	Log(Aamp) amplitude (ksi)	Log(Arng) range (ksi)	B	Correlation Coefficient	Std Estimate of Error log(Life)
Continuous Cruciform Axial Load Full Penetration Weld Non-load carrying fillet weld	HSLA-80	shipyard	1/4"	10.714	11.944	-4.087	-0.944	0.350
	HSLA-80	lab	7/16"	9.559	10.525	-3.210	-0.973	0.185
	HSLA-80	shipyard	7/16"	10.432	11.592	-3.855	-0.976	0.210
	HSLA-80	lab+shpyd	7/16"	9.947	10.999	-3.496	-0.971	0.205
	HSLA-80	shipyard	3/4"	9.057	10.000	-3.134	-0.959	0.173
	HSLA-80	shipyard	1"	8.389	9.211	-2.732	-0.991	0.068
	HS	lab	1/2"	11.289	12.639	-4.486	-0.975	0.218
	OS	lab	1/2"	10.566	11.766	-3.987	-0.950	0.221
	AL-6XN	lab	1/2"	11.601	12.912	-4.354	-0.932	0.229
	Nitronic-50	lab	1/2"	9.187	10.112	-3.074	-0.979	0.087
Continuous Cruciform Bending Load Full Penetration Weld Non-load carrying fillet weld	HSLA-80	shipyard	7/16"	13.617	15.161	-5.130	-0.923	0.378
Discontinuous Cruciform Axial Load Full Penetration Weld Load carrying fillet weld	HSLA-80	lab	7/16"	9.601	10.597	-3.306	-0.936	0.263
	HS	lab	1/2"	9.648	10.677	-3.417	-0.944	0.252
	OS	lab	1/2"	10.185	11.314	-3.752	-0.901	0.304
Misaligned Cruciform Axial Load Full Penetration Weld Load carrying fillet weld	HSLA-80	lab	1/2"	9.733	10.922	-3.949	-0.966	0.227
	HS	lab	1/2"	12.902	14.833	-6.416	-0.995	0.142
	OS	lab	1/2"	10.541	12.023	-4.924	-0.976	0.149
Discontinuous Cruciform Axial Load Partial Penetration Weld Load carrying fillet weld	HSLA-80	lab	1/2"	8.272	9.081	-2.686	-0.964	0.139
Misaligned Cruciform Axial Load Partial Penetration Weld Load carrying fillet weld	HSLA-80	lab	1/2"	8.513	9.521	-3.349	-0.949	0.208
Conventional Component Axial Load (approx R=0)	HSLA-80 & HS	lab+shpyd	3/16" & 1/4"	9.192	10.174	-3.263	-0.915	0.214
Conventional Component Axial Load (approx R=0)	HS	lab+shpyd	3/16" & 1/4"	9.289	10.290	-3.325	-0.889	0.255
Conventional Component Axial Load (approx R=0)	HSLA-80	lab+shpyd	3/16" & 1/4"	9.078	10.069	-3.291	-0.955	0.175
Conventional Component Axial Load (approx R=-1)	HSLA-80	shipyard	3/16" & 1/4"	9.427	10.399	-3.23	-0.947	0.169

Table 4. AASHTO S/N Curve Coefficients (Stress Ranges in ksi; 2.3% Probability of Failure)

Fatigue Detail Category	*B*	Log(*A*)
A	-3.0	10.401
B	-3.0	10.080
B'	-3.0	9.791
C	-3.0	9.652
D	-3.0	9.335
E	-3.0	9.030
E'	-3.0	8.583

Table 5. AASHTO Fatigue Design Categories and Detail Descriptions

Detail	Category
Base metal, rolled shapes, machined ground flame cut edges with ANSI /ASME (ANSI/ASME 1985) smoothness of 1000 micro-inches or less	A
Continuous longitudinal fillet weld	B
Full penetration longitudinal fillet weld with permanent backing bar and partial penetration longitudinal welds (possible corrosion effects excluded)	B'
Transverse butt joint	C
Transverse butt joint with plates of unequal thickness and:	
Transition greater than or equal to 2.5:1	C
Transition less than (steeper) than 2.5:1	D
Non load carry attachment shorter than 2"	C
Cruciform joint where loaded member continuous	C
Flame cut edge	C
Non-load carrying attachment between 2" and 4" long	D
Transverse frame or floor at shell or deck	D
Rat hole < 4" long	D
Non-load carrying attachment longer than 4" and < 1" thick	E
Load carrying attachment < 1" thick	E
Rat hole > 4" long	E
Non-load carrying attachment longer than 4" and > 1" thick	E'
Load carrying attachment > 1" thick	E'

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Appendix A
Results of Panel Analysis with Loosely Clamped Edges

Page

Nomenclature

a, A	panel length
b, B	panel width
E	Young's modulus
P	applied pressure
t	panel thickness
w	normal displacement
M_x	bending moment per unit width acting in the x direction
M_y	bending moment per unit width acting in the y direction
N_x	axial edge force per unit width
N_{xcr}	critical axial edge force per unit width to cause buckling in a simply-supported plate
w_{max}	maximum normal displacement
w_{min}	minimum normal displacement

Table A- 1. Center Displacement $w*E*t^3/(p*b^4)$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.04102	0.03436	0.01336	0.04259	0.02436	0.02814
-1.6	0.03666	0.03515	0.01963	0.03311	0.02807	0.02844
-1.5	0.03316	0.0352	0.02278	0.03029	0.0284	0.02844
-1.4	0.03028	0.03493	0.02469	0.02914	0.02844	0.02844
-1.3	0.02787	0.03451	0.02595	0.02862	0.02845	0.02844
-1.2	0.02582	0.034	0.02682	0.02838	0.02844	0.02844
-1.1	0.02406	0.03345	0.02744	0.02828	0.02844	0.02844
-1	0.02254	0.0329	0.02789	0.02825	0.02844	0.02844
-0.9	0.02118	0.03232	0.02821	0.02826	0.02844	0.02844
-0.8	0.01998	0.03176	0.02844	0.02828	0.02844	0.02844
-0.7	0.01892	0.0312	0.02859	0.02832	0.02844	0.02844
-0.6	0.01797	0.03065	0.02869	0.02835	0.02844	0.02844
-0.5	0.01711	0.03012	0.02874	0.02839	0.02844	0.02844
-0.4	0.01633	0.0296	0.02876	0.02841	0.02844	0.02844
-0.3	0.01562	0.02909	0.02875	0.02844	0.02844	0.02844
-0.2	0.01497	0.0286	0.02871	0.02845	0.02844	0.02844
-0.1	0.01437	0.02812	0.02865	0.02846	0.02844	0.02844
0	0.01382	0.02766	0.02858	0.02846	0.02844	0.02844
0.1	0.01331	0.02721	0.02849	0.02846	0.02844	0.02844
0.2	0.01283	0.02677	0.0284	0.02845	0.02844	0.02844
0.3	0.01239	0.02635	0.02829	0.02844	0.02844	0.02844
0.4	0.01198	0.02594	0.02817	0.02842	0.02844	0.02844
0.5	0.0116	0.02554	0.02805	0.02839	0.02844	0.02844
0.6	0.01124	0.02515	0.02793	0.02836	0.02844	0.02844
0.7	0.0109	0.02478	0.02779	0.02833	0.02844	0.02844
0.8	0.01058	0.02441	0.02766	0.02829	0.02844	0.02844
0.9	0.01028	0.02406	0.02752	0.02825	0.02844	0.02844
1	0.01	0.02371	0.02738	0.0282	0.02844	0.02844
1.1	0.009733	0.02338	0.02723	0.02815	0.02844	0.02844
1.2	0.009479	0.02305	0.02709	0.0281	0.02844	0.02844
1.3	0.009238	0.02273	0.02694	0.02805	0.02844	0.02844
1.4	0.00901	0.02243	0.02679	0.02799	0.02844	0.02844
1.5	0.008792	0.02212	0.02665	0.02793	0.02843	0.02844
1.6	0.008585	0.02183	0.0265	0.02787	0.02843	0.02844
1.7	0.008387	0.02155	0.02635	0.02781	0.02843	0.02844

Table A- 2. Center Bending Moment Mx*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5193	0.02745	-0.0945	0.2876	0.01376	0.07051
-1.6	0.4549	0.05831	-0.0222	0.1524	0.06818	0.07496
-1.5	0.4035	0.07505	0.01017	0.112	0.0737	0.075
-1.4	0.3618	0.08505	0.02861	0.09453	0.07476	0.075
-1.3	0.3272	0.09132	0.04054	0.08567	0.07499	0.075
-1.2	0.2982	0.09531	0.04887	0.08077	0.07503	0.075
-1.1	0.2735	0.09782	0.055	0.07794	0.07503	0.075
-1	0.2524	0.09932	0.05963	0.07628	0.07502	0.075
-0.9	0.2338	0.1001	0.0633	0.07529	0.07501	0.075
-0.8	0.2176	0.1004	0.06619	0.07474	0.075	0.075
-0.7	0.2034	0.1003	0.06851	0.07445	0.075	0.075
-0.6	0.1907	0.09996	0.07038	0.07433	0.075	0.075
-0.5	0.1794	0.09939	0.0719	0.07432	0.075	0.075
-0.4	0.1693	0.09866	0.07315	0.07437	0.075	0.075
-0.3	0.1602	0.09782	0.07416	0.07447	0.075	0.075
-0.2	0.1519	0.09689	0.07497	0.07458	0.075	0.075
-0.1	0.1443	0.09589	0.07563	0.0747	0.075	0.075
0	0.1374	0.09485	0.07616	0.07483	0.075	0.075
0.1	0.1311	0.09377	0.07657	0.07495	0.075	0.075
0.2	0.1253	0.09268	0.07688	0.07506	0.075	0.075
0.3	0.12	0.09157	0.0771	0.07516	0.075	0.075
0.4	0.115	0.09045	0.07726	0.07524	0.075	0.075
0.5	0.1104	0.08933	0.07734	0.07531	0.075	0.075
0.6	0.1061	0.08822	0.07738	0.07537	0.075	0.075
0.7	0.1022	0.08711	0.07737	0.07542	0.075	0.075
0.8	0.09846	0.08601	0.07731	0.07545	0.075	0.075
0.9	0.09498	0.08493	0.07722	0.07546	0.075	0.075
1	0.09173	0.08385	0.07709	0.07547	0.075	0.075
1.1	0.08867	0.0828	0.07693	0.07546	0.075	0.075
1.2	0.08579	0.08175	0.07675	0.07544	0.075	0.075
1.3	0.08308	0.08072	0.07655	0.0754	0.075	0.075
1.4	0.08053	0.07971	0.07633	0.07536	0.075	0.075
1.5	0.07811	0.07872	0.07609	0.07531	0.075	0.075
1.6	0.07582	0.07774	0.07583	0.07524	0.075	0.075
1.7	0.07366	0.07679	0.07556	0.07517	0.075	0.075

Table A- 3. Center Bending Moment $My*6/(p*b^2)$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.4667	0.2886	0.07997	0.4228	0.2003	0.2464
-1.6	0.413	0.303	0.1513	0.3086	0.2452	0.25
-1.5	0.37	0.3075	0.1862	0.2747	0.2494	0.25
-1.4	0.3348	0.3076	0.207	0.2607	0.25	0.25
-1.3	0.3054	0.3054	0.2206	0.2541	0.2501	0.25
-1.2	0.2805	0.302	0.2301	0.2508	0.2501	0.25
-1.1	0.2591	0.2979	0.2369	0.2493	0.25	0.25
-1	0.2408	0.2934	0.2418	0.2487	0.25	0.25
-0.9	0.2245	0.2887	0.2454	0.2485	0.25	0.25
-0.8	0.2102	0.2838	0.248	0.2486	0.25	0.25
-0.7	0.1975	0.279	0.2499	0.2489	0.25	0.25
-0.6	0.1862	0.2741	0.2511	0.2492	0.25	0.25
-0.5	0.176	0.2694	0.2519	0.2494	0.25	0.25
-0.4	0.1668	0.2647	0.2523	0.2497	0.25	0.25
-0.3	0.1585	0.2601	0.2524	0.2499	0.25	0.25
-0.2	0.1508	0.2556	0.2523	0.25	0.25	0.25
-0.1	0.1439	0.2512	0.2519	0.2501	0.25	0.25
0	0.1374	0.2469	0.2514	0.2502	0.25	0.25
0.1	0.1315	0.2428	0.2507	0.2502	0.25	0.25
0.2	0.126	0.2387	0.2499	0.2501	0.25	0.25
0.3	0.121	0.2348	0.249	0.25	0.25	0.25
0.4	0.1162	0.2309	0.2481	0.2498	0.25	0.25
0.5	0.1118	0.2272	0.247	0.2496	0.25	0.25
0.6	0.1077	0.2236	0.2459	0.2494	0.25	0.25
0.7	0.1038	0.22	0.2447	0.2491	0.25	0.25
0.8	0.1002	0.2166	0.2435	0.2488	0.25	0.25
0.9	0.09682	0.2133	0.2423	0.2484	0.25	0.25
1	0.09362	0.21	0.241	0.248	0.25	0.25
1.1	0.0906	0.2068	0.2397	0.2476	0.25	0.25
1.2	0.08774	0.2038	0.2384	0.2471	0.25	0.25
1.3	0.08503	0.2008	0.2371	0.2466	0.25	0.25
1.4	0.08247	0.1978	0.2357	0.2461	0.25	0.25
1.5	0.08004	0.195	0.2344	0.2456	0.25	0.25
1.6	0.07772	0.1922	0.233	0.2451	0.25	0.25
1.7	0.07552	0.1895	0.2316	0.2445	0.25	0.25

Table A- 4. Maximum Displacement wmax*E*t^3/(p*b^4)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.04102	0.03726	0.04711	0.04835	0.04675	0.04661
-1.6	0.03666	0.03629	0.04174	0.04117	0.04086	0.04087
-1.5	0.03316	0.0356	0.0385	0.03793	0.03787	0.03786
-1.4	0.03028	0.03502	0.03627	0.03584	0.03586	0.03586
-1.3	0.02787	0.03451	0.03461	0.03434	0.03436	0.03436
-1.2	0.02582	0.034	0.03334	0.0332	0.03321	0.03321
-1.1	0.02406	0.03345	0.03233	0.03227	0.03228	0.03228
-1	0.02254	0.0329	0.03153	0.03152	0.03153	0.03153
-0.9	0.02118	0.03232	0.03087	0.03089	0.03089	0.03089
-0.8	0.01998	0.03176	0.03033	0.03037	0.03037	0.03037
-0.7	0.01892	0.0312	0.02989	0.02994	0.02994	0.02994
-0.6	0.01797	0.03065	0.02954	0.02958	0.02958	0.02958
-0.5	0.01711	0.03012	0.02925	0.02928	0.02928	0.02928
-0.4	0.01633	0.0296	0.02903	0.02904	0.02904	0.02904
-0.3	0.01562	0.02909	0.02886	0.02885	0.02885	0.02884
-0.2	0.01497	0.0286	0.02873	0.0287	0.0287	0.0287
-0.1	0.01437	0.02812	0.02865	0.02859	0.02859	0.02859
0	0.01382	0.02766	0.02858	0.02851	0.02851	0.02851
0.1	0.01331	0.02721	0.02849	0.02847	0.02847	0.02847
0.2	0.01283	0.02677	0.0284	0.02845	0.02845	0.02845
0.3	0.01239	0.02635	0.02829	0.02844	0.02844	0.02844
0.4	0.01198	0.02594	0.02817	0.02842	0.02844	0.02844
0.5	0.0116	0.02554	0.02805	0.02839	0.02844	0.02844
0.6	0.01124	0.02515	0.02793	0.02836	0.02844	0.02844
0.7	0.0109	0.02478	0.02779	0.02833	0.02844	0.02844
0.8	0.01058	0.02441	0.02766	0.02829	0.02844	0.02844
0.9	0.01028	0.02406	0.02752	0.02825	0.02844	0.02844
1	0.01	0.02371	0.02738	0.0282	0.02844	0.02844
1.1	0.00973	0.02338	0.02723	0.02815	0.02844	0.02844
1.2	0.00948	0.02305	0.02709	0.0281	0.02844	0.02844
1.3	0.00924	0.02273	0.02694	0.02805	0.02844	0.02844
1.4	0.00901	0.02243	0.02679	0.02799	0.02844	0.02844
1.5	0.00879	0.02212	0.02665	0.02793	0.02843	0.02844
1.6	0.00859	0.02183	0.0265	0.02787	0.02843	0.02844
1.7	0.00839	0.02155	0.02635	0.02781	0.02843	0.02844

Table A- 5. Longitudinal Location x/a of wmax

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0.1613	0.266	0.3333	0.4173	0.4588
-1.6	0	0.129	0.266	0.3333	0.4134	0.4569
-1.5	0	0.1129	0.266	0.3254	0.4134	0.4569
-1.4	0	0.08065	0.2553	0.3175	0.4094	0.4549
-1.3	0	0.01613	0.2553	0.3175	0.4055	0.4529
-1.2	0	0	0.2447	0.3095	0.4055	0.4529
-1.1	0	0	0.234	0.3016	0.4016	0.451
-1	0	0	0.234	0.2937	0.3976	0.449
-0.9	0	0	0.2234	0.2857	0.3937	0.4471
-0.8	0	0	0.2128	0.2778	0.3898	0.4451
-0.7	0	0	0.2021	0.2698	0.3858	0.4431
-0.6	0	0	0.1809	0.2619	0.3819	0.4412
-0.5	0	0	0.1702	0.254	0.374	0.4373
-0.4	0	0	0.1489	0.2381	0.3701	0.4353
-0.3	0	0	0.1277	0.2222	0.3622	0.4294
-0.2	0	0	0.08511	0.1984	0.3504	0.4255
-0.1	0	0	0	0.1746	0.3386	0.4196
0	0	0	0	0.1429	0.3228	0.4118
0.1	0	0	0	0.1032	0.3031	0.402
0.2	0	0	0	0	0.2717	0.3863
0.3	0	0	0	0	0.2165	0.3588
0.4	0	0	0	0	0.08661	0.2941
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table A- 6. Transverse Location y/b of wmax

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table A- 7. Minimum Displacement wmin*E*t³/(p*b⁴)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table A- 8. Longitudinal Location x/a of wmin

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5	0.5	0.5	0.5	0.5	0.5
-1.6	0.5	0.5	0.5	0.5	0.5	0.5
-1.5	0.5	0.5	0.5	0.5	0.5	0.5
-1.4	0.5	0.5	0.5	0.5	0.5	0.5
-1.3	0.5	0.5	0.5	0.5	0.5	0.5
-1.2	0.5	0.5	0.5	0.5	0.5	0.5
-1.1	0.5	0.5	0.5	0.5	0.5	0.5
-1	0.5	0.5	0.5	0.5	0.5	0.5
-0.9	0.5	0.5	0.5	0.5	0.5	0.5
-0.8	0.5	0.5	0.5	0.5	0.5	0.5
-0.7	0.5	0.5	0.5	0.5	0.5	0.5
-0.6	0.5	0.5	0.5	0.5	0.5	0.5
-0.5	0.5	0.5	0.5	0.5	0.5	0.5
-0.4	0.5	0.5	0.5	0.5	0.5	0.5
-0.3	0.5	0.5	0.5	0.5	0.5	0.5
-0.2	0.5	0.5	0.5	0.5	0.5	0.5
-0.1	0.5	0.5	0.5	0.5	0.5	0.5
0	0.5	0.5	0.5	0.5	0.5	0.5
0.1	0.5	0.5	0.5	0.5	0.5	0.5
0.2	0.5	0.5	0.5	0.5	0.5	0.5
0.3	0.5	0.5	0.5	0.5	0.5	0.5
0.4	0.5	0.5	0.5	0.5	0.5	0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.5	0.5	0.5	0.5	0.5	0.5
0.7	0.5	0.5	0.5	0.5	0.5	0.5
0.8	0.5	0.5	0.5	0.5	0.5	0.5
0.9	0.5	0.5	0.5	0.5	0.5	0.5
1	0.5	0.5	0.5	0.5	0.5	0.5
1.1	0.5	0.5	0.5	0.5	0.5	0.5
1.2	0.5	0.5	0.5	0.5	0.5	0.5
1.3	0.5	0.5	0.5	0.5	0.5	0.5
1.4	0.5	0.5	0.5	0.5	0.5	0.5
1.5	0.5	0.5	0.5	0.5	0.5	0.5
1.6	0.5	0.5	0.5	0.5	0.5	0.5
1.7	0.5	0.5	0.5	0.5	0.5	0.5

Table A- 9. Transverse Location y/b of wmin

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-1.6	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-1.5	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-1.4	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-1.3	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-1.2	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-1.1	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-1	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-0.9	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-0.8	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-0.7	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-0.6	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-0.5	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-0.4	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-0.3	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-0.2	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
-0.1	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0.1	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0.2	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0.3	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0.4	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0.5	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0.6	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0.7	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0.8	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
0.9	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
1	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
1.1	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
1.2	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
1.3	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
1.4	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
1.5	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
1.6	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333
1.7	0.4333	0.4333	0.4333	0.4333	0.4333	0.4333

Table A- 10. Maximum Bending Moment Mx*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5193	0.2546	0.32	0.3774	0.3559	0.3542
-1.6	0.4549	0.2234	0.27	0.2841	0.2783	0.2783
-1.5	0.4035	0.2032	0.2378	0.242	0.2399	0.2398
-1.4	0.3618	0.1882	0.215	0.2157	0.215	0.215
-1.3	0.3272	0.1764	0.1969	0.1965	0.1964	0.1964
-1.2	0.2982	0.1667	0.1822	0.1816	0.1816	0.1817
-1.1	0.2735	0.1584	0.1704	0.1697	0.1696	0.1697
-1	0.2524	0.1512	0.1605	0.1599	0.1599	0.1598
-0.9	0.2338	0.1448	0.1518	0.1514	0.1513	0.1513
-0.8	0.2176	0.1391	0.1443	0.144	0.144	0.144
-0.7	0.2034	0.134	0.1377	0.1375	0.1375	0.1375
-0.6	0.1907	0.1293	0.1319	0.1318	0.1318	0.1317
-0.5	0.1794	0.1251	0.1266	0.1266	0.1266	0.1266
-0.4	0.1693	0.1211	0.122	0.122	0.122	0.1219
-0.3	0.1602	0.1175	0.1177	0.1177	0.1177	0.1177
-0.2	0.1519	0.1141	0.1139	0.1139	0.1139	0.1139
-0.1	0.1443	0.1109	0.1103	0.1104	0.1103	0.1103
0	0.1374	0.1079	0.1071	0.1071	0.1071	0.1071
0.1	0.1311	0.1052	0.1041	0.1041	0.1041	0.1041
0.2	0.1253	0.1025	0.1013	0.1013	0.1013	0.1013
0.3	0.12	0.1001	0.09873	0.09872	0.09869	0.09868
0.4	0.115	0.09771	0.09633	0.0963	0.09628	0.09629
0.5	0.1104	0.09554	0.09408	0.09404	0.09406	0.09407
0.6	0.1061	0.09348	0.09199	0.09197	0.09198	0.09199
0.7	0.1022	0.09152	0.09006	0.09003	0.09003	0.09003
0.8	0.09846	0.08964	0.08825	0.0882	0.08819	0.08819
0.9	0.09498	0.08786	0.08653	0.08647	0.08645	0.08645
1	0.09173	0.0862	0.08491	0.08484	0.08485	0.08485
1.1	0.08867	0.08461	0.08341	0.08335	0.08335	0.08335
1.2	0.08579	0.08311	0.08201	0.08194	0.08193	0.08192
1.3	0.08308	0.08169	0.08068	0.08062	0.08062	0.08062
1.4	0.08053	0.08035	0.07946	0.0794	0.07939	0.07938
1.5	0.07811	0.07908	0.07833	0.07827	0.07826	0.07826
1.6	0.07582	0.07791	0.07729	0.07724	0.07723	0.07723
1.7	0.07366	0.07682	0.07635	0.07631	0.07631	0.07631

Table A- 11. Longitudinal Location x/a of max Mx

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0.2419	0.2766	0.3413	0.4213	0.4608
-1.6	0	0.2258	0.2979	0.3492	0.4252	0.4627
-1.5	0	0.2258	0.2979	0.3571	0.4291	0.4647
-1.4	0	0.2258	0.3085	0.3571	0.4291	0.4647
-1.3	0	0.2258	0.3085	0.3571	0.4291	0.4647
-1.2	0	0.2258	0.3085	0.3571	0.4291	0.4647
-1.1	0	0.2258	0.3191	0.3651	0.4291	0.4647
-1	0	0.2258	0.3191	0.3651	0.4331	0.4667
-0.9	0	0.2258	0.3191	0.3651	0.4331	0.4667
-0.8	0	0.2258	0.3191	0.3651	0.4331	0.4667
-0.7	0	0.2258	0.3191	0.3651	0.4331	0.4667
-0.6	0	0.2258	0.3191	0.3651	0.4331	0.4667
-0.5	0	0.2258	0.3191	0.3651	0.4331	0.4667
-0.4	0	0.2258	0.3191	0.3651	0.4331	0.4667
-0.3	0	0.2258	0.3191	0.3651	0.4331	0.4667
-0.2	0	0.2258	0.3191	0.3651	0.4331	0.4667
-0.1	0	0.2258	0.3191	0.3651	0.4331	0.4667
0	0	0.2258	0.3191	0.3651	0.4331	0.4667
0.1	0	0.2258	0.3191	0.3651	0.4331	0.4667
0.2	0	0.2258	0.3191	0.3651	0.4331	0.4667
0.3	0	0.2258	0.3191	0.3651	0.4331	0.4667
0.4	0	0.2097	0.3191	0.3651	0.4291	0.4647
0.5	0	0.2097	0.3191	0.3571	0.4291	0.4647
0.6	0	0.2097	0.3085	0.3571	0.4291	0.4647
0.7	0	0.2097	0.3085	0.3571	0.4291	0.4647
0.8	0	0.2097	0.3085	0.3571	0.4291	0.4647
0.9	0	0.1935	0.3085	0.3571	0.4291	0.4647
1	0	0.1935	0.3085	0.3492	0.4252	0.4627
1.1	0	0.1935	0.2979	0.3492	0.4252	0.4627
1.2	0	0.1774	0.2979	0.3492	0.4252	0.4627
1.3	0	0.1774	0.2872	0.3413	0.4213	0.4608
1.4	0	0.1613	0.2872	0.3413	0.4213	0.4608
1.5	0	0.1452	0.2766	0.3333	0.4173	0.4588
1.6	0	0.129	0.266	0.3254	0.4134	0.4569
1.7	0	0.09677	0.2553	0.3175	0.4055	0.4529

Table A- 12. Transverse Location y/b of max Mx

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table A- 13. Minimum Bending Moment Mx*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	-0.5254	-0.3478	-0.3248	-0.3535	-0.3526	-0.3525
-1.6	-0.4953	-0.3398	-0.3401	-0.351	-0.3495	-0.3495
-1.5	-0.4704	-0.3372	-0.3444	-0.3486	-0.3478	-0.3478
-1.4	-0.4492	-0.3367	-0.3455	-0.347	-0.3466	-0.3466
-1.3	-0.4309	-0.3371	-0.3454	-0.3458	-0.3456	-0.3456
-1.2	-0.415	-0.3378	-0.345	-0.3449	-0.3448	-0.3448
-1.1	-0.4008	-0.3386	-0.3444	-0.3442	-0.3442	-0.3442
-1	-0.3883	-0.3393	-0.3438	-0.3436	-0.3436	-0.3436
-0.9	-0.3767	-0.34	-0.3432	-0.343	-0.3431	-0.3431
-0.8	-0.3663	-0.3406	-0.3427	-0.3426	-0.3426	-0.3426
-0.7	-0.3568	-0.341	-0.3422	-0.3422	-0.3422	-0.3422
-0.6	-0.3481	-0.3413	-0.3418	-0.3418	-0.3418	-0.3418
-0.5	-0.34	-0.3414	-0.3415	-0.3415	-0.3415	-0.3415
-0.4	-0.3325	-0.3415	-0.3411	-0.3411	-0.3411	-0.3411
-0.3	-0.3255	-0.3414	-0.3408	-0.3408	-0.3408	-0.3408
-0.2	-0.3189	-0.3413	-0.3406	-0.3406	-0.3406	-0.3406
-0.1	-0.3128	-0.341	-0.3403	-0.3403	-0.3403	-0.3403
0	-0.307	-0.3407	-0.3401	-0.3401	-0.3401	-0.3401
0.1	-0.3015	-0.3403	-0.3399	-0.3399	-0.3399	-0.3399
0.2	-0.2964	-0.3398	-0.3397	-0.3397	-0.3397	-0.3397
0.3	-0.2915	-0.3392	-0.3395	-0.3395	-0.3395	-0.3395
0.4	-0.2868	-0.3386	-0.3393	-0.3393	-0.3393	-0.3393
0.5	-0.2824	-0.338	-0.3391	-0.3391	-0.3391	-0.3391
0.6	-0.2781	-0.3373	-0.3389	-0.3389	-0.3389	-0.3389
0.7	-0.2741	-0.3366	-0.3387	-0.3388	-0.3388	-0.3388
0.8	-0.2702	-0.3358	-0.3385	-0.3386	-0.3386	-0.3386
0.9	-0.2665	-0.335	-0.3383	-0.3385	-0.3385	-0.3385
1	-0.263	-0.3342	-0.3381	-0.3383	-0.3383	-0.3383
1.1	-0.2595	-0.3333	-0.3379	-0.3382	-0.3382	-0.3382
1.2	-0.2563	-0.3324	-0.3377	-0.3381	-0.3381	-0.3381
1.3	-0.2531	-0.3315	-0.3375	-0.3379	-0.338	-0.338
1.4	-0.25	-0.3306	-0.3373	-0.3378	-0.3379	-0.3379
1.5	-0.2471	-0.3296	-0.3371	-0.3377	-0.3377	-0.3377
1.6	-0.2443	-0.3287	-0.3369	-0.3376	-0.3376	-0.3376
1.7	-0.2415	-0.3277	-0.3366	-0.3375	-0.3375	-0.3375

Table A- 14. Longitudinal Location x/a of min Mx

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5	0.5	0.5	0.5	0.5	0.5
-1.6	0.5	0.5	0.5	0.5	0.5	0.5
-1.5	0.5	0.5	0.5	0.5	0.5	0.5
-1.4	0.5	0.5	0.5	0.5	0.5	0.5
-1.3	0.5	0.5	0.5	0.5	0.5	0.5
-1.2	0.5	0.5	0.5	0.5	0.5	0.5
-1.1	0.5	0.5	0.5	0.5	0.5	0.5
-1	0.5	0.5	0.5	0.5	0.5	0.5
-0.9	0.5	0.5	0.5	0.5	0.5	0.5
-0.8	0.5	0.5	0.5	0.5	0.5	0.5
-0.7	0.5	0.5	0.5	0.5	0.5	0.5
-0.6	0.5	0.5	0.5	0.5	0.5	0.5
-0.5	0.5	0.5	0.5	0.5	0.5	0.5
-0.4	0.5	0.5	0.5	0.5	0.5	0.5
-0.3	0.5	0.5	0.5	0.5	0.5	0.5
-0.2	0.5	0.5	0.5	0.5	0.5	0.5
-0.1	0.5	0.5	0.5	0.5	0.5	0.5
0	0.5	0.5	0.5	0.5	0.5	0.5
0.1	0.5	0.5	0.5	0.5	0.5	0.5
0.2	0.5	0.5	0.5	0.5	0.5	0.5
0.3	0.5	0.5	0.5	0.5	0.5	0.5
0.4	0.5	0.5	0.5	0.5	0.5	0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.5	0.5	0.5	0.5	0.5	0.5
0.7	0.5	0.5	0.5	0.5	0.5	0.5
0.8	0.5	0.5	0.5	0.5	0.5	0.5
0.9	0.5	0.5	0.5	0.5	0.5	0.5
1	0.5	0.5	0.5	0.5	0.5	0.5
1.1	0.5	0.5	0.5	0.5	0.5	0.5
1.2	0.5	0.5	0.5	0.5	0.5	0.5
1.3	0.5	0.5	0.5	0.5	0.5	0.5
1.4	0.5	0.5	0.5	0.5	0.5	0.5
1.5	0.5	0.5	0.5	0.5	0.5	0.5
1.6	0.5	0.5	0.5	0.5	0.5	0.5
1.7	0.5	0.5	0.5	0.5	0.5	0.5

Table A- 15. Transverse Location y/b of min Mx

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table A- 16. Maximum Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.4667	0.3614	0.4683	0.4931	0.4739	0.4724
-1.6	0.413	0.3431	0.4077	0.4069	0.4024	0.4024
-1.5	0.37	0.3303	0.371	0.3671	0.366	0.366
-1.4	0.3348	0.3203	0.3451	0.3416	0.3414	0.3414
-1.3	0.3054	0.312	0.3259	0.3233	0.3234	0.3234
-1.2	0.2805	0.305	0.3107	0.309	0.309	0.3091
-1.1	0.2591	0.2988	0.2986	0.2977	0.2978	0.2978
-1	0.2408	0.2935	0.2888	0.2884	0.2885	0.2885
-0.9	0.2245	0.2887	0.2807	0.2806	0.2806	0.2806
-0.8	0.2102	0.2838	0.274	0.2742	0.2741	0.2741
-0.7	0.1975	0.279	0.2685	0.2687	0.2687	0.2687
-0.6	0.1862	0.2741	0.264	0.2642	0.2642	0.2642
-0.5	0.176	0.2694	0.2603	0.2605	0.2605	0.2605
-0.4	0.1668	0.2647	0.2573	0.2575	0.2575	0.2575
-0.3	0.1585	0.2601	0.255	0.2551	0.2551	0.2551
-0.2	0.1508	0.2556	0.2533	0.2532	0.2532	0.2532
-0.1	0.1439	0.2512	0.2521	0.2518	0.2518	0.2518
0	0.1374	0.2469	0.2514	0.2509	0.2509	0.2509
0.1	0.1315	0.2428	0.2507	0.2504	0.2504	0.2504
0.2	0.126	0.2387	0.2499	0.2501	0.2501	0.2501
0.3	0.121	0.2348	0.249	0.25	0.25	0.25
0.4	0.1162	0.2309	0.2481	0.2498	0.25	0.25
0.5	0.1118	0.2272	0.247	0.2496	0.25	0.25
0.6	0.1077	0.2236	0.2459	0.2494	0.25	0.25
0.7	0.1038	0.22	0.2447	0.2491	0.25	0.25
0.8	0.1002	0.2166	0.2435	0.2488	0.25	0.25
0.9	0.09682	0.2133	0.2423	0.2484	0.25	0.25
1	0.09362	0.21	0.241	0.248	0.25	0.25
1.1	0.0906	0.2068	0.2397	0.2476	0.25	0.25
1.2	0.08774	0.2038	0.2384	0.2471	0.25	0.25
1.3	0.08503	0.2008	0.2371	0.2466	0.25	0.25
1.4	0.08247	0.1978	0.2357	0.2461	0.25	0.25
1.5	0.08004	0.195	0.2344	0.2456	0.25	0.25
1.6	0.07772	0.1922	0.233	0.2451	0.25	0.25
1.7	0.07552	0.1895	0.2316	0.2445	0.25	0.25

Table A- 17. Longitudinal Location x/a of max My

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0.1935	0.266	0.3333	0.4173	0.4588
-1.6	0	0.1774	0.2766	0.3333	0.4173	0.4588
-1.5	0	0.1613	0.2766	0.3333	0.4173	0.4588
-1.4	0	0.1452	0.266	0.3333	0.4134	0.4569
-1.3	0	0.129	0.266	0.3254	0.4134	0.4569
-1.2	0	0.1129	0.266	0.3254	0.4134	0.4549
-1.1	0	0.08065	0.2553	0.3175	0.4094	0.4549
-1	0	0.04839	0.2553	0.3095	0.4055	0.4529
-0.9	0	0	0.2447	0.3095	0.4055	0.451
-0.8	0	0	0.234	0.3016	0.4016	0.451
-0.7	0	0	0.2234	0.2937	0.3976	0.449
-0.6	0	0	0.2128	0.2857	0.3937	0.4451
-0.5	0	0	0.2021	0.2698	0.3858	0.4431
-0.4	0	0	0.1809	0.2619	0.3819	0.4392
-0.3	0	0	0.1596	0.246	0.374	0.4373
-0.2	0	0	0.1277	0.2302	0.3622	0.4314
-0.1	0	0	0.08511	0.2063	0.3504	0.4255
0	0	0	0	0.1746	0.3346	0.4176
0.1	0	0	0	0.127	0.315	0.4078
0.2	0	0	0	0.04762	0.2835	0.3922
0.3	0	0	0	0	0.2283	0.3647
0.4	0	0	0	0	0.09843	0.3
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table A- 18. Transverse Location y/b of max My

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table A- 19. Minimum Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	-0.8224	-0.6754	-0.8543	-0.8904	-0.8595	-0.857
-1.6	-0.7393	-0.6495	-0.7559	-0.7528	-0.7456	-0.7455
-1.5	-0.6725	-0.631	-0.6967	-0.6893	-0.6874	-0.6873
-1.4	-0.6177	-0.6164	-0.6554	-0.6487	-0.6488	-0.6489
-1.3	-0.5719	-0.6041	-0.6243	-0.6198	-0.6199	-0.6198
-1.2	-0.533	-0.5933	-0.5998	-0.597	-0.5974	-0.5974
-1.1	-0.4996	-0.5839	-0.5807	-0.579	-0.5791	-0.579
-1	-0.4709	-0.5755	-0.5649	-0.5643	-0.5644	-0.5644
-0.9	-0.4452	-0.5673	-0.5517	-0.5516	-0.5517	-0.5518
-0.8	-0.4228	-0.5591	-0.541	-0.5412	-0.5412	-0.5412
-0.7	-0.4028	-0.5508	-0.532	-0.5324	-0.5324	-0.5324
-0.6	-0.3848	-0.5427	-0.5246	-0.525	-0.525	-0.525
-0.5	-0.3687	-0.5346	-0.5184	-0.5188	-0.5188	-0.5188
-0.4	-0.3541	-0.5268	-0.5134	-0.5137	-0.5137	-0.5137
-0.3	-0.3407	-0.5191	-0.5094	-0.5095	-0.5095	-0.5095
-0.2	-0.3286	-0.5115	-0.5063	-0.5062	-0.5062	-0.5062
-0.1	-0.3174	-0.5042	-0.5041	-0.5037	-0.5037	-0.5037
0	-0.3071	-0.4971	-0.5027	-0.502	-0.502	-0.502
0.1	-0.2976	-0.4901	-0.5016	-0.5008	-0.5008	-0.5008
0.2	-0.2887	-0.4834	-0.5003	-0.5003	-0.5002	-0.5002
0.3	-0.2805	-0.4768	-0.4988	-0.5001	-0.5	-0.5
0.4	-0.2729	-0.4704	-0.4972	-0.4998	-0.5	-0.5
0.5	-0.2658	-0.4642	-0.4955	-0.4995	-0.5	-0.5
0.6	-0.2591	-0.4582	-0.4937	-0.4991	-0.5	-0.5
0.7	-0.2528	-0.4523	-0.4918	-0.4986	-0.5	-0.5
0.8	-0.2469	-0.4466	-0.4898	-0.4981	-0.5	-0.5
0.9	-0.2413	-0.441	-0.4877	-0.4975	-0.5	-0.5
1	-0.236	-0.4356	-0.4856	-0.4968	-0.5	-0.5
1.1	-0.2311	-0.4304	-0.4835	-0.4961	-0.5	-0.5
1.2	-0.2264	-0.4253	-0.4813	-0.4954	-0.5	-0.5
1.3	-0.2219	-0.4203	-0.4792	-0.4946	-0.5	-0.5
1.4	-0.2176	-0.4154	-0.4769	-0.4938	-0.5	-0.5
1.5	-0.2136	-0.4107	-0.4747	-0.4929	-0.5	-0.5
1.6	-0.2098	-0.4061	-0.4725	-0.492	-0.4999	-0.5
1.7	-0.2061	-0.4016	-0.4702	-0.4911	-0.4999	-0.5

Table A- 20. Longitudinal Location x/a of min My

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0.1935	0.266	0.3333	0.4173	0.4588
-1.6	0	0.1613	0.266	0.3333	0.4173	0.4588
-1.5	0	0.1452	0.266	0.3333	0.4173	0.4569
-1.4	0	0.129	0.266	0.3254	0.4134	0.4569
-1.3	0	0.1129	0.266	0.3254	0.4134	0.4569
-1.2	0	0.09677	0.2553	0.3175	0.4094	0.4549
-1.1	0	0.06452	0.2553	0.3175	0.4094	0.4549
-1	0	0	0.2447	0.3095	0.4055	0.4529
-0.9	0	0	0.2447	0.3016	0.4016	0.451
-0.8	0	0	0.234	0.3016	0.3976	0.449
-0.7	0	0	0.2234	0.2937	0.3976	0.4471
-0.6	0	0	0.2128	0.2857	0.3898	0.4451
-0.5	0	0	0.2021	0.2698	0.3858	0.4431
-0.4	0	0	0.1809	0.2619	0.3819	0.4412
-0.3	0	0	0.1596	0.246	0.374	0.4373
-0.2	0	0	0.1383	0.2302	0.3661	0.4333
-0.1	0	0	0.1064	0.2063	0.3543	0.4275
0	0	0	0.02128	0.1825	0.3425	0.4216
0.1	0	0	0	0.1429	0.3228	0.4118
0.2	0	0	0	0.07937	0.2913	0.3961
0.3	0	0	0	0	0.2441	0.3725
0.4	0	0	0	0	0.1181	0.3098
0.5	0	0	0	0	0	0.2118
0.6	0	0	0	0	0	0.1686
0.7	0	0	0	0	0	0.1373
0.8	0	0	0	0	0	0.1098
0.9	0	0	0	0	0	0.08235
1	0	0	0	0	0	0.0549
1.1	0	0	0	0	0	0.00784
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table A- 21. Transverse Location y/b of min My

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5	0.5	0.5	0.5	0.5	0.5
-1.6	0.5	0.5	0.5	0.5	0.5	0.5
-1.5	0.5	0.5	0.5	0.5	0.5	0.5
-1.4	0.5	0.5	0.5	0.5	0.5	0.5
-1.3	0.5	0.5	0.5	0.5	0.5	0.5
-1.2	0.5	0.5	0.5	0.5	0.5	0.5
-1.1	0.5	0.5	0.5	0.5	0.5	0.5
-1	0.5	0.5	0.5	0.5	0.5	0.5
-0.9	0.5	0.5	0.5	0.5	0.5	0.5
-0.8	0.5	0.5	0.5	0.5	0.5	0.5
-0.7	0.5	0.5	0.5	0.5	0.5	0.5
-0.6	0.5	0.5	0.5	0.5	0.5	0.5
-0.5	0.5	0.5	0.5	0.5	0.5	0.5
-0.4	0.5	0.5	0.5	0.5	0.5	0.5
-0.3	0.5	0.5	0.5	0.5	0.5	0.5
-0.2	0.5	0.5	0.5	0.5	0.5	0.5
-0.1	0.5	0.5	0.5	0.5	0.5	0.5
0	0.5	0.5	0.5	0.5	0.5	0.5
0.1	0.5	0.5	0.5	0.5	0.5	0.5
0.2	0.5	0.5	0.5	0.5	0.5	0.5
0.3	0.5	0.5	0.5	0.5	0.5	0.5
0.4	0.5	0.5	0.5	0.5	0.5	0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.5	0.5	0.5	0.5	0.5	0.5
0.7	0.5	0.5	0.5	0.5	0.5	0.5
0.8	0.5	0.5	0.5	0.5	0.5	0.5
0.9	0.5	0.5	0.5	0.5	0.5	0.5
1	0.5	0.5	0.5	0.5	0.5	0.5
1.1	0.5	0.5	0.5	0.5	0.5	0.5
1.2	0.5	0.5	0.5	0.5	0.5	0.5
1.3	0.5	0.5	0.5	0.5	0.5	0.5
1.4	0.5	0.5	0.5	0.5	0.5	0.5
1.5	0.5	0.5	0.5	0.5	0.5	0.5
1.6	0.5	0.5	0.5	0.5	0.5	0.5
1.7	0.5	0.5	0.5	0.5	0.5	0.5

Table A- 22. Minimum Bending Moment My*6/(p*b²) Calculated from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	-0.2974	-0.4954	-0.4912	-0.491	-0.4923	-0.4923
a2=	0.14323	0.0733	0.0665	0.06142	0.05755	0.05741
a3=	-0.0661	-0.0121	-0.0455	-0.0506	-0.0498	-0.0496

Calculated from polynomial: $G(x)=a1+a2(x)+a3(x^2)$

Minimum $My*6/(p*b^2) = a1 + a2\ (Nx/Nxcr) + a3\ (Nx/Nxcr)^2$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	-0.7318	-0.655	-0.7357	-0.7418	-0.734	-0.7334
-1.6	-0.6957	-0.6437	-0.714	-0.7189	-0.7118	-0.7113
-1.5	-0.6609	-0.6326	-0.6933	-0.6971	-0.6906	-0.6902
-1.4	-0.6274	-0.6217	-0.6734	-0.6762	-0.6704	-0.67
-1.3	-0.5952	-0.6111	-0.6545	-0.6564	-0.6512	-0.6509
-1.2	-0.5644	-0.6008	-0.6365	-0.6376	-0.633	-0.6327
-1.1	-0.5349	-0.5907	-0.6194	-0.6198	-0.6158	-0.6156
-1	-0.5067	-0.5808	-0.6032	-0.603	-0.5996	-0.5994
-0.9	-0.4798	-0.5712	-0.5879	-0.5873	-0.5844	-0.5842
-0.8	-0.4543	-0.5618	-0.5735	-0.5725	-0.5702	-0.57
-0.7	-0.43	-0.5526	-0.5601	-0.5588	-0.5569	-0.5569
-0.6	-0.4071	-0.5437	-0.5475	-0.5461	-0.5447	-0.5447
-0.5	-0.3855	-0.5351	-0.5358	-0.5343	-0.5335	-0.5335
-0.4	-0.3653	-0.5266	-0.5251	-0.5236	-0.5232	-0.5233
-0.3	-0.3463	-0.5185	-0.5153	-0.514	-0.514	-0.514
-0.2	-0.3287	-0.5105	-0.5063	-0.5053	-0.5058	-0.5058
-0.1	-0.3124	-0.5028	-0.4983	-0.4976	-0.4985	-0.4986
0	-0.2974	-0.4954	-0.4912	-0.491	-0.4923	-0.4923
0.1	-0.2838	-0.4882	-0.485	-0.4853	-0.487	-0.4871
0.2	-0.2714	-0.4812	-0.4797	-0.4807	-0.4827	-0.4829
0.3	-0.2604	-0.4745	-0.4754	-0.4771	-0.4795	-0.4796
0.4	-0.2507	-0.468	-0.4719	-0.4745	-0.4772	-0.4773
0.5	-0.2423	-0.4618	-0.4693	-0.4729	-0.4759	-0.4761
0.6	-0.2353	-0.4558	-0.4677	-0.4723	-0.4757	-0.4758
0.7	-0.2295	-0.45	-0.4669	-0.4728	-0.4764	-0.4765
0.8	-0.2251	-0.4445	-0.4671	-0.4742	-0.4781	-0.4782
0.9	-0.222	-0.4392	-0.4682	-0.4767	-0.4808	-0.4809
1	-0.2202	-0.4342	-0.4702	-0.4802	-0.4845	-0.4846
1.1	-0.2198	-0.4294	-0.4731	-0.4847	-0.4892	-0.4893
1.2	-0.2207	-0.4249	-0.4769	-0.4902	-0.4949	-0.4949
1.3	-0.2229	-0.4206	-0.4816	-0.4967	-0.5016	-0.5016
1.4	-0.2264	-0.4165	-0.4872	-0.5042	-0.5093	-0.5093
1.5	-0.2312	-0.4127	-0.4938	-0.5128	-0.518	-0.5179
1.6	-0.2374	-0.4091	-0.5012	-0.5223	-0.5277	-0.5276
1.7	-0.2448	-0.4058	-0.5096	-0.5329	-0.5384	-0.5382

Table A- 23. Minimum Bending Moment Mx*6/(p*b^2) Calculated from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	-0.304	-0.3398	-0.3412	-0.3397	-0.3398	-0.3398
a2=	0.07113	0.0032	0.00151	0.00342	0.00325	0.00324
a3=	-0.0247	0.00228	0.0012	-0.0016	-0.0014	-0.0014

Calculated from polynomial: G(x)=a1+a2(x)+a3(x^2)

Minimum Mx*6/(p*b^2) = a1 + a2 (Nx/Nxcr) + a3 (Nx/Nxcr)^2

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	-0.4964	-0.3387	-0.3403	-0.3502	-0.3494	-0.3494
-1.6	-0.4811	-0.3391	-0.3405	-0.3493	-0.3487	-0.3486
-1.5	-0.4663	-0.3395	-0.3408	-0.3485	-0.3479	-0.3479
-1.4	-0.452	-0.3399	-0.3409	-0.3477	-0.3472	-0.3471
-1.3	-0.4382	-0.3402	-0.3411	-0.3469	-0.3464	-0.3464
-1.2	-0.4249	-0.3404	-0.3413	-0.3462	-0.3458	-0.3457
-1.1	-0.4121	-0.3406	-0.3414	-0.3454	-0.3451	-0.3451
-1	-0.3998	-0.3408	-0.3415	-0.3448	-0.3445	-0.3445
-0.9	-0.388	-0.3409	-0.3416	-0.3441	-0.3439	-0.3439
-0.8	-0.3767	-0.3409	-0.3416	-0.3435	-0.3433	-0.3433
-0.7	-0.3659	-0.341	-0.3417	-0.3429	-0.3428	-0.3428
-0.6	-0.3556	-0.3409	-0.3417	-0.3424	-0.3423	-0.3423
-0.5	-0.3457	-0.3409	-0.3416	-0.3418	-0.3418	-0.3418
-0.4	-0.3364	-0.3408	-0.3416	-0.3414	-0.3413	-0.3413
-0.3	-0.3275	-0.3406	-0.3415	-0.3409	-0.3409	-0.3409
-0.2	-0.3192	-0.3404	-0.3414	-0.3405	-0.3405	-0.3405
-0.1	-0.3113	-0.3401	-0.3413	-0.3401	-0.3402	-0.3402
0	-0.304	-0.3398	-0.3412	-0.3397	-0.3398	-0.3398
0.1	-0.2971	-0.3395	-0.341	-0.3394	-0.3395	-0.3395
0.2	-0.2907	-0.3391	-0.3408	-0.3391	-0.3392	-0.3392
0.3	-0.2849	-0.3387	-0.3406	-0.3388	-0.339	-0.339
0.4	-0.2795	-0.3382	-0.3404	-0.3386	-0.3387	-0.3388
0.5	-0.2746	-0.3377	-0.3401	-0.3384	-0.3385	-0.3386
0.6	-0.2702	-0.3371	-0.3398	-0.3383	-0.3384	-0.3384
0.7	-0.2663	-0.3365	-0.3395	-0.3381	-0.3382	-0.3382
0.8	-0.2629	-0.3358	-0.3392	-0.338	-0.3381	-0.3381
0.9	-0.26	-0.3351	-0.3389	-0.338	-0.338	-0.3381
1	-0.2576	-0.3344	-0.3385	-0.3379	-0.338	-0.338
1.1	-0.2557	-0.3336	-0.3381	-0.3379	-0.338	-0.338
1.2	-0.2542	-0.3327	-0.3376	-0.3379	-0.338	-0.338
1.3	-0.2533	-0.3318	-0.3372	-0.338	-0.338	-0.338
1.4	-0.2529	-0.3309	-0.3367	-0.3381	-0.3381	-0.3381
1.5	-0.2529	-0.3299	-0.3362	-0.3382	-0.3382	-0.3381
1.6	-0.2535	-0.3289	-0.3357	-0.3384	-0.3383	-0.3383
1.7	-0.2545	-0.3278	-0.3352	-0.3386	-0.3384	-0.3384

Table A- 24. Maximum Bending Moment $My*6/(p*b^2)$ Calculated from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	0.13112	0.2454	0.24395	0.24373	0.24455	0.24461
a2=	-0.0903	-0.0448	-0.0407	-0.0378	-0.0354	-0.0353
a3=	0.0426	0.0082	0.02819	0.03164	0.0311	0.031

Calculated from polynomial: $G(x)=a1+a2(x)+a3(x^2)$

Maximum $My*6/(p*b^2) = a1 + a2\,(Nx/Nxcr) + a3\,(Nx/Nxcr)^2$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.40781	0.34522	0.39467	0.39943	0.39456	0.39422
-1.6	0.38472	0.33804	0.38129	0.38521	0.38076	0.38046
-1.5	0.36248	0.33101	0.36848	0.37162	0.36758	0.36732
-1.4	0.34109	0.32416	0.35623	0.35867	0.35502	0.3548
-1.3	0.32056	0.31747	0.34455	0.34634	0.34309	0.3429
-1.2	0.30087	0.31094	0.33343	0.33465	0.33178	0.33162
-1.1	0.28204	0.30457	0.32287	0.3236	0.32109	0.32095
-1	0.26406	0.29837	0.31288	0.31317	0.31102	0.31091
-0.9	0.24693	0.29234	0.30345	0.30338	0.30157	0.30149
-0.8	0.23066	0.28647	0.29458	0.29422	0.29275	0.29269
-0.7	0.21523	0.28076	0.28628	0.2857	0.28455	0.28451
-0.6	0.20066	0.27521	0.27854	0.2778	0.27697	0.27695
-0.5	0.18694	0.26983	0.27137	0.27054	0.27001	0.27001
-0.4	0.17407	0.26462	0.26476	0.26392	0.26367	0.26369
-0.3	0.16206	0.25957	0.25871	0.25792	0.25796	0.25799
-0.2	0.15089	0.25468	0.25323	0.25256	0.25287	0.25291
-0.1	0.14058	0.24996	0.24831	0.24783	0.2484	0.24845
0	0.13112	0.2454	0.24395	0.24373	0.24455	0.24461
0.1	0.12251	0.241	0.24016	0.24027	0.24132	0.24139
0.2	0.11475	0.23677	0.23693	0.23744	0.23872	0.23879
0.3	0.10785	0.2327	0.23427	0.23524	0.23674	0.23681
0.4	0.1018	0.2288	0.23217	0.23367	0.23538	0.23545
0.5	0.09659	0.22506	0.23063	0.23274	0.23464	0.23471
0.6	0.09225	0.22148	0.22966	0.23244	0.23452	0.23459
0.7	0.08875	0.21807	0.22925	0.23277	0.23503	0.23509
0.8	0.0861	0.21483	0.22941	0.23373	0.23616	0.23621
0.9	0.08431	0.21174	0.23013	0.23533	0.23791	0.23795
1	0.08337	0.20882	0.23141	0.23756	0.24028	0.24031
1.1	0.08328	0.20607	0.23325	0.24042	0.24327	0.24329
1.2	0.08404	0.20348	0.23567	0.24392	0.24689	0.24689
1.3	0.08566	0.20105	0.23864	0.24805	0.25113	0.25111
1.4	0.08812	0.19879	0.24218	0.25281	0.25599	0.25595
1.5	0.09144	0.19669	0.24628	0.2582	0.26147	0.26141
1.6	0.09561	0.19476	0.25095	0.26423	0.26757	0.2675
1.7	0.10064	0.19298	0.25617	0.27089	0.2743	0.2742

Table A- 25. Maximum Bending Moment Mx*6/(p*b^2) Calculated from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	0.12964	0.10474	0.1015	0.09886	0.09982	0.09988
a2=	-0.1008	-0.0397	-0.0501	-0.0536	-0.0522	-0.0522
a3=	0.05049	0.01718	0.02682	0.03144	0.02964	0.02953
Calculated from polynomial: G(x)=a1+a2(x)+a3(x^2)						
Maximum Mx*6/(p*b^2) = a1 + a2 (Nx/Nxcr) + a3 (Nx/Nxcr)^2						
Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.44693	0.22183	0.26426	0.28091	0.27428	0.27388
-1.6	0.42019	0.21219	0.25039	0.26517	0.25928	0.25892
-1.5	0.39445	0.2029	0.23707	0.25006	0.24486	0.24455
-1.4	0.36973	0.19395	0.22427	0.23558	0.23105	0.23077
-1.3	0.34602	0.18534	0.21202	0.22173	0.21782	0.21758
-1.2	0.32331	0.17708	0.2003	0.2085	0.20519	0.20499
-1.1	0.30162	0.16916	0.18911	0.19591	0.19315	0.19298
-1	0.28094	0.16159	0.17847	0.18394	0.1817	0.18156
-0.9	0.26126	0.15435	0.16836	0.1726	0.17084	0.17074
-0.8	0.2426	0.14747	0.15878	0.16189	0.16058	0.1605
-0.7	0.22494	0.14092	0.14975	0.15181	0.15091	0.15085
-0.6	0.2083	0.13472	0.14124	0.14236	0.14183	0.1418
-0.5	0.19266	0.12887	0.13328	0.13354	0.13335	0.13334
-0.4	0.17804	0.12335	0.12585	0.12535	0.12546	0.12546
-0.3	0.16442	0.11818	0.11896	0.11778	0.11816	0.11818
-0.2	0.15182	0.11336	0.1126	0.11084	0.11145	0.11149
-0.1	0.14022	0.10888	0.10678	0.10454	0.10534	0.10539
0	0.12964	0.10474	0.1015	0.09886	0.09982	0.09988
0.1	0.12006	0.10094	0.09675	0.09381	0.09489	0.09496
0.2	0.11149	0.09749	0.09254	0.08939	0.09056	0.09063
0.3	0.10394	0.09438	0.08887	0.08559	0.08682	0.08689
0.4	0.09739	0.09162	0.08573	0.08243	0.08367	0.08374
0.5	0.09185	0.0892	0.08313	0.07989	0.08111	0.08118
0.6	0.08732	0.08712	0.08106	0.07799	0.07915	0.07921
0.7	0.08381	0.08539	0.07954	0.07671	0.07778	0.07784
0.8	0.0813	0.084	0.07854	0.07606	0.077	0.07705
0.9	0.0798	0.08296	0.07809	0.07604	0.07681	0.07686
1	0.07931	0.08225	0.07817	0.07665	0.07722	0.07725
1.1	0.07984	0.0819	0.07879	0.07789	0.07822	0.07824
1.2	0.08137	0.08188	0.07994	0.07976	0.07981	0.07982
1.3	0.08391	0.08221	0.08163	0.08225	0.082	0.08198
1.4	0.08746	0.08288	0.08386	0.08538	0.08478	0.08474
1.5	0.09202	0.0839	0.08662	0.08913	0.08815	0.08809
1.6	0.09759	0.08526	0.08992	0.09351	0.09211	0.09203
1.7	0.10417	0.08696	0.09375	0.09852	0.09667	0.09656

Table A- 26. Center Bending Moment My*6/(p*b^2) Calculated from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	0.13112	0.24941	0.25891	0.24147	0.25198	0.25013
a2=	-0.0903	-0.0377	0.01445	-0.0136	0.0026	0.00017
a3=	0.0426	-0.0002	-0.0249	0.01481	-0.0035	-0.0002
Calculated from polynomial: G(x)=a1+a2(x)+a3(x^2)						
Center My*6/(p*b^2) = a1 + a2 (Nx/Nxcr) + a3 (Nx/Nxcr)^2						
Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.40781	0.31294	0.16234	0.30736	0.23751	0.24917
-1.6	0.38472	0.30923	0.17201	0.30112	0.23892	0.24927
-1.5	0.36248	0.30552	0.18118	0.29517	0.24026	0.24936
-1.4	0.34109	0.3018	0.18985	0.28952	0.24153	0.24944
-1.3	0.32056	0.29809	0.19802	0.28416	0.24272	0.24952
-1.2	0.30087	0.29436	0.2057	0.2791	0.24385	0.24959
-1.1	0.28204	0.29064	0.21287	0.27434	0.24491	0.24966
-1	0.26406	0.28691	0.21955	0.26987	0.2459	0.24973
-0.9	0.24693	0.28317	0.22573	0.2657	0.24682	0.24979
-0.8	0.23066	0.27944	0.23141	0.26182	0.24767	0.24985
-0.7	0.21523	0.2757	0.23659	0.25824	0.24845	0.2499
-0.6	0.20066	0.27195	0.24128	0.25496	0.24916	0.24995
-0.5	0.18694	0.2682	0.24546	0.25197	0.24981	0.24999
-0.4	0.17407	0.26445	0.24915	0.24928	0.25038	0.25003
-0.3	0.16206	0.2607	0.25234	0.24688	0.25088	0.25006
-0.2	0.15089	0.25694	0.25503	0.24478	0.25132	0.25009
-0.1	0.14058	0.25317	0.25722	0.24298	0.25168	0.25011
0	0.13112	0.24941	0.25891	0.24147	0.25198	0.25013
0.1	0.12251	0.24564	0.26011	0.24026	0.2522	0.25015
0.2	0.11475	0.24186	0.26081	0.23935	0.25236	0.25016
0.3	0.10785	0.23809	0.26101	0.23873	0.25244	0.25016
0.4	0.1018	0.2343	0.26071	0.23841	0.25246	0.25016
0.5	0.09659	0.23052	0.25991	0.23838	0.25241	0.25016
0.6	0.09225	0.22673	0.25861	0.23865	0.25228	0.25015
0.7	0.08875	0.22294	0.25682	0.23922	0.25209	0.25014
0.8	0.0861	0.21914	0.25453	0.24008	0.25183	0.25012
0.9	0.08431	0.21534	0.25173	0.24124	0.2515	0.2501
1	0.08337	0.21154	0.24844	0.24269	0.2511	0.25007
1.1	0.08328	0.20773	0.24466	0.24445	0.25063	0.25004
1.2	0.08404	0.20392	0.24037	0.24649	0.25009	0.25001
1.3	0.08566	0.20011	0.23559	0.24884	0.24948	0.24996
1.4	0.08812	0.19629	0.2303	0.25147	0.24881	0.24992
1.5	0.09144	0.19247	0.22452	0.25441	0.24806	0.24987
1.6	0.09561	0.18864	0.21824	0.25764	0.24724	0.24981
1.7	0.10064	0.18481	0.21146	0.26117	0.24635	0.24976

Table A- 27. Center Bending Moment Mx*6/(p*b^2) Calculated from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	0.12964	0.09875	0.08303	0.06466	0.07747	0.07517
a2=	-0.1008	-5E-05	0.0216	-0.0164	0.00328	0.00022
a3=	0.05049	-0.0111	-0.0213	0.02046	-0.0044	-0.0003

Calculated from polynomial: G(x)=a1+a2(x)+a3(x^2)

Center Mx*6/(p*b^2) = a1 + a2 (Nx/Nxcr) + a3 (Nx/Nxcr)^2

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.44693	0.06675	-0.0152	0.15172	0.05927	0.07396
-1.6	0.42019	0.07041	-0.006	0.14333	0.06104	0.07408
-1.5	0.39445	0.07385	0.00272	0.13534	0.06272	0.07419
-1.4	0.36973	0.07706	0.01106	0.12776	0.06431	0.0743
-1.3	0.34602	0.08005	0.01897	0.1206	0.06582	0.0744
-1.2	0.32331	0.08282	0.02645	0.11384	0.06724	0.07449
-1.1	0.30162	0.08537	0.03351	0.10749	0.06857	0.07458
-1	0.28094	0.0877	0.04014	0.10155	0.06982	0.07466
-0.9	0.26126	0.0898	0.04634	0.09602	0.07098	0.07474
-0.8	0.2426	0.09169	0.05212	0.0909	0.07205	0.07481
-0.7	0.22494	0.09335	0.05748	0.08619	0.07303	0.07487
-0.6	0.2083	0.09479	0.0624	0.08188	0.07392	0.07493
-0.5	0.19266	0.096	0.06691	0.07799	0.07473	0.07499
-0.4	0.17804	0.097	0.07098	0.07451	0.07545	0.07503
-0.3	0.16442	0.09777	0.07463	0.07143	0.07609	0.07508
-0.2	0.15182	0.09832	0.07786	0.06877	0.07663	0.07511
-0.1	0.14022	0.09865	0.08066	0.06651	0.07709	0.07514
0	0.12964	0.09875	0.08303	0.06466	0.07747	0.07517
0.1	0.12006	0.09864	0.08498	0.06322	0.07775	0.07519
0.2	0.11149	0.0983	0.0865	0.06219	0.07795	0.0752
0.3	0.10394	0.09774	0.08759	0.06157	0.07806	0.07521
0.4	0.09739	0.09696	0.08826	0.06136	0.07808	0.07521
0.5	0.09185	0.09595	0.08851	0.06156	0.07802	0.0752
0.6	0.08732	0.09473	0.08833	0.06217	0.07786	0.07519
0.7	0.08381	0.09328	0.08772	0.06319	0.07763	0.07518
0.8	0.0813	0.09161	0.08668	0.06461	0.0773	0.07515
0.9	0.0798	0.08972	0.08522	0.06645	0.07689	0.07513
1	0.07931	0.0876	0.08334	0.06869	0.07638	0.07509
1.1	0.07984	0.08527	0.08103	0.07134	0.0758	0.07505
1.2	0.08137	0.08271	0.07829	0.07441	0.07512	0.07501
1.3	0.08391	0.07993	0.07513	0.07788	0.07436	0.07496
1.4	0.08746	0.07693	0.07154	0.08176	0.07351	0.0749
1.5	0.09202	0.0737	0.06753	0.08605	0.07257	0.07484
1.6	0.09759	0.07025	0.06309	0.09075	0.07155	0.07477
1.7	0.10417	0.06659	0.05822	0.09586	0.07043	0.07469

Table A- 28. Percent Error between Actual and Calculated Minimum Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	11.0171	3.01932	13.8858	16.6943	14.5983	14.4195
-1.6	5.90087	0.89634	5.54043	4.50341	4.52836	4.58747
-1.5	1.72859	-0.2522	0.49159	-1.1251	-0.4716	-0.4174
-1.4	-1.5698	-0.8674	-2.7525	-4.2432	-3.3359	-3.2563
-1.3	-4.081	-1.1662	-4.8396	-5.9065	-5.0558	-5.0152
-1.2	-5.8917	-1.2616	-6.1181	-6.8015	-5.9649	-5.9142
-1.1	-7.0632	-1.1591	-6.6625	-7.049	-6.3416	-6.3164
-1	-7.6011	-0.9197	-6.7784	-6.8643	-6.2385	-6.2021
-0.9	-7.7764	-0.6804	-6.5619	-6.4667	-5.9258	-5.8773
-0.8	-7.4429	-0.4775	-6.0116	-5.7868	-5.353	-5.3307
-0.7	-6.7621	-0.3308	-5.273	-4.9547	-4.6103	-4.5946
-0.6	-5.8025	-0.1873	-4.3636	-4.01	-3.7553	-3.7461
-0.5	-4.5672	-0.0848	-3.3642	-2.9952	-2.83	-2.8266
-0.4	-3.155	0.03177	-2.2784	-1.9347	-1.8581	-1.8601
-0.3	-1.6511	0.1244	-1.1513	-0.8736	-0.884	-0.8909
-0.2	-0.0304	0.19194	-0.0081	0.18249	0.08715	0.07588
-0.1	1.57665	0.27279	1.14527	1.20815	1.03037	1.01537
0	3.1545	0.34735	2.28333	2.19805	1.94078	1.92268
0.1	4.65373	0.39494	3.30421	3.08906	2.75545	2.73488
0.2	5.98908	0.45555	4.10959	3.91622	3.49055	3.46817
0.3	7.16946	0.48789	4.69873	4.59964	4.10481	4.08127
0.4	8.13818	0.51191	5.08949	5.06198	4.55845	4.53439
0.5	8.83625	0.52724	5.28018	5.32208	4.81286	4.78892
0.6	9.20236	0.5335	5.26885	5.36063	4.86805	4.84486
0.7	9.20838	0.50833	5.05328	5.17711	4.72401	4.70221
0.8	8.82671	0.47278	4.63096	4.78986	4.38074	4.36097
0.9	7.99271	0.40394	3.99908	4.17901	3.83825	3.82114
1	6.67736	0.32345	3.17448	3.34338	3.09653	3.08272
1.1	4.89383	0.23097	2.15464	2.30121	2.15558	2.14572
1.2	2.53517	0.10273	0.91643	1.05163	1.01541	1.01012
1.3	-0.4288	-0.0625	-0.502	-0.4265	-0.324	-0.3241
1.4	-4.0275	-0.2659	-2.1663	-2.1146	-1.8626	-1.8568
1.5	-8.2383	-0.4843	-4.0164	-4.0348	-3.6005	-3.5882
1.6	-13.132	-0.7426	-6.0762	-6.1678	-5.5587	-5.5182
1.7	-18.79	-1.042	-8.3717	-8.515	-7.6954	-7.6467
Minimum My*6/(p*b^2)						
+/-1.7 max err	11.0171	3.01932	13.8858	16.6943	14.5983	14.4195
+/-1.7 min err	-18.79	-1.2616	-8.3717	-8.515	-7.6954	-7.6467
+/-1.5 max err	9.20838	0.5335	5.28018	5.36063	4.86805	4.84486
+/-1.5 min err	-8.2383	-1.2616	-6.7784	-7.049	-6.3416	-6.3164

Table A- 29. Percent Error between Actual and Calculated Minimum Bending Moment $Mx*6/(p*b^2)$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	5.52568	2.61565	-4.7677	0.93454	0.89361	0.87201
-1.6	2.86812	0.19608	-0.1265	0.47775	0.24191	0.24774
-1.5	0.86842	-0.6878	1.05948	0.03386	-0.0254	-0.0203
-1.4	-0.6301	-0.9382	1.31752	-0.194	-0.1589	-0.1544
-1.3	-1.7035	-0.9058	1.2389	-0.317	-0.2435	-0.2397
-1.2	-2.3964	-0.7704	1.08124	-0.363	-0.2787	-0.2754
-1.1	-2.8304	-0.5923	0.87265	-0.3601	-0.264	-0.2613
-1	-2.9714	-0.4313	0.6703	-0.3374	-0.2576	-0.2554
-0.9	-3.0068	-0.2576	0.47423	-0.324	-0.2303	-0.2286
-0.8	-2.8418	-0.1006	0.31356	-0.2615	-0.2111	-0.2099
-0.7	-2.5469	0.01058	0.15944	-0.2081	-0.171	-0.1702
-0.6	-2.1429	0.10557	0.04114	-0.1641	-0.1391	-0.1387
-0.5	-1.6842	0.15526	-0.0411	-0.1001	-0.0862	-0.0861
-0.4	-1.1693	0.21825	-0.1458	-0.0747	-0.0708	-0.071
-0.3	-0.628	0.23611	-0.2144	-0.0294	-0.0344	-0.0349
-0.2	-0.0925	0.26733	-0.2465	0.03592	0.02304	0.0223
-0.1	0.46667	0.25343	-0.3011	0.06249	0.04282	0.04189
0	0.98363	0.25287	-0.3193	0.10902	0.08364	0.08255
0.1	1.45443	0.23637	-0.3304	0.14612	0.11613	0.11492
0.2	1.90819	0.20386	-0.3344	0.1738	0.14027	0.13898
0.3	2.27514	0.15525	-0.3315	0.19202	0.15605	0.15471
0.4	2.55005	0.1199	-0.3214	0.20078	0.16345	0.1621
0.5	2.76221	0.0979	-0.3043	0.20004	0.16245	0.16113
0.6	2.8381	0.05968	-0.28	0.18981	0.15305	0.1518
0.7	2.84219	0.03484	-0.2487	0.19952	0.1647	0.16355
0.8	2.6993	-0.0063	-0.2102	0.17026	0.13846	0.13746
0.9	2.43976	-0.0341	-0.1646	0.16095	0.13329	0.13246
1	2.05924	-0.0484	-0.1118	0.1126	0.09016	0.08956
1.1	1.47784	-0.0792	-0.0519	0.08423	0.06812	0.06777
1.2	0.80359	-0.0964	0.01514	0.04631	0.03763	0.03759
1.3	-0.0831	-0.0999	0.08941	-0.0307	-0.0013	-0.001
1.4	-1.15	-0.0897	0.17087	-0.0878	-0.0487	-0.048
1.5	-2.3611	-0.0961	0.25954	-0.1544	-0.1342	-0.1331
1.6	-3.761	-0.0581	0.35543	-0.2306	-0.1985	-0.197
1.7	-5.3982	-0.0366	0.42899	-0.3164	-0.2713	-0.2693
Minimum $Mx*6/(p*b^2)$						
+/-1.7 max err	5.52568	2.61565	1.31752	0.93454	0.89361	0.87201
+/-1.7 min err	-5.3982	-0.9382	-4.7677	-0.363	-0.2787	-0.2754
+/-1.5 max err	2.84219	0.26733	1.31752	0.20078	0.1647	0.16355
+/-1.5 min err	-3.0068	-0.9382	-0.3344	-0.363	-0.2787	-0.2754

Table A- 30. Percent Error between Actual and Calculated Maximum Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	12.6177	4.47709	15.723	18.9966	16.7429	16.5491
-1.6	6.84706	1.47614	6.47709	5.33113	5.37879	5.45218
-1.5	2.03194	-0.2165	0.67912	-1.2313	-0.4312	-0.3604
-1.4	-1.8799	-1.2047	-3.2257	-4.9957	-3.9901	-3.9243
-1.3	-4.9633	-1.752	-5.7217	-7.1275	-6.088	-6.0286
-1.2	-7.2635	-1.9469	-7.3145	-8.3022	-7.3711	-7.2841
-1.1	-8.8545	-1.9324	-8.1276	-8.6991	-7.8197	-7.775
-1	-9.6603	-1.6606	-8.3364	-8.5899	-7.8056	-7.7688
-0.9	-9.9928	-1.2601	-8.1033	-8.119	-7.4745	-7.4455
-0.8	-9.7325	-0.9393	-7.511	-7.3025	-6.8039	-6.7826
-0.7	-8.979	-0.6301	-6.6213	-6.3258	-5.8979	-5.884
-0.6	-7.7665	-0.4064	-5.5076	-5.1492	-4.8326	-4.8258
-0.5	-6.2164	-0.1612	-4.2512	-3.8556	-3.6506	-3.6503
-0.4	-4.36	0.03081	-2.8975	-2.4917	-2.3977	-2.4033
-0.3	-2.2435	0.20502	-1.4544	-1.1058	-1.1212	-1.1322
-0.2	-0.0606	0.3603	0.02932	0.25329	0.13105	0.11542
-0.1	2.30795	0.49543	1.5047	1.57704	1.35098	1.33143
0	4.57188	0.60917	2.96286	2.85688	2.53078	2.50807
0.1	6.83684	0.74115	4.20426	4.04639	3.62449	3.59939
0.2	8.92633	0.80894	5.18916	5.06345	4.55007	4.52336
0.3	10.8694	0.89366	5.91629	5.90501	5.30469	5.27716
0.4	12.3966	0.91018	6.42144	6.45662	5.84871	5.82111
0.5	13.6008	0.94228	6.62664	6.75563	6.14393	6.11703
0.6	14.3497	0.94636	6.60439	6.80143	6.19035	6.16491
0.7	14.5007	0.876	6.31336	6.55591	5.98798	5.96477
0.8	14.0686	0.81915	5.78792	6.0555	5.53682	5.51659
0.9	12.9207	0.7301	5.02458	5.26115	4.83687	4.82038
1	10.9496	0.56013	3.97996	4.20911	3.88812	3.87613
1.1	8.07977	0.35357	2.6888	2.89813	2.69058	2.68386
1.2	4.21422	0.15801	1.14706	1.28704	1.24425	1.24355
1.3	-0.7375	-0.1251	-0.6494	-0.5872	-0.4509	-0.4448
1.4	-6.8555	-0.4997	-2.7483	-2.7261	-2.3948	-2.3812
1.5	-14.246	-0.8665	-5.0681	-5.1313	-4.5875	-4.5656
1.6	-23.022	-1.3294	-7.7019	-7.8045	-7.029	-6.998
1.7	-33.256	-1.8388	-10.611	-10.793	-9.7193	-9.6785
Maximum My*6/(p*b^2)						
+/-1.7 max err	14.5007	4.47709	15.723	18.9966	16.7429	16.5491
+/-1.7 min err	-33.256	-1.9469	-10.611	-10.793	-9.7193	-9.6785
+/-1.5 max err	14.5007	0.94636	6.62664	6.80143	6.19035	6.16491
+/-1.5 min err	-14.246	-1.9469	-8.3364	-8.6991	-7.8197	-7.775

Table A- 31. Percent Error between Actual and Calculated Maximum Bending Moment Mx*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	13.9359	12.8727	17.4189	25.566	22.9335	22.6758
-1.6	7.63071	5.01818	7.26133	6.6616	6.83605	6.9631
-1.5	2.24164	0.14946	0.30881	-3.3321	-2.0691	-1.9816
-1.4	-2.1923	-3.0536	-4.3132	-9.2174	-7.4628	-7.336
-1.3	-5.7514	-5.0686	-7.6776	-12.839	-10.906	-10.786
-1.2	-8.4222	-6.2261	-9.9328	-14.815	-12.988	-12.816
-1.1	-10.282	-6.7932	-10.983	-15.444	-13.883	-13.717
-1	-11.306	-6.8688	-11.195	-15.036	-13.632	-13.618
-0.9	-11.746	-6.5983	-10.907	-14.005	-12.916	-12.846
-0.8	-11.488	-6.0149	-10.037	-12.427	-11.514	-11.458
-0.7	-10.592	-5.1663	-8.7474	-10.411	-9.7533	-9.7124
-0.6	-9.2287	-4.1938	-7.084	-8.0144	-7.6131	-7.6691
-0.5	-7.3936	-3.0104	-5.2755	-5.4819	-5.3319	-5.321
-0.4	-5.1617	-1.8604	-3.1559	-2.7427	-2.8352	-2.9231
-0.3	-2.6363	-0.5818	-1.0687	-0.0687	-0.3912	-0.4084
-0.2	0.05417	0.65036	1.13956	2.68277	2.14684	2.11704
-0.1	2.82616	1.82517	3.18899	5.31102	4.49521	4.4539
0	5.65082	2.93096	5.22929	7.69587	6.79591	6.74454
0.1	8.42144	4.04683	7.05794	9.88704	8.8433	8.78341
0.2	11.0192	4.88622	8.6453	11.7609	10.6027	10.5361
0.3	13.3864	5.71012	9.98854	13.2965	12.0301	11.9497
0.4	15.3136	6.23237	11.0031	14.403	13.099	13.0338
0.5	16.8005	6.63578	11.6396	15.0415	13.7658	13.7004
0.6	17.6956	6.79969	11.8767	15.202	13.9507	13.8874
0.7	17.9966	6.69714	11.6854	14.7936	13.6096	13.5416
0.8	17.4287	6.29011	10.9983	13.7611	12.6896	12.6288
0.9	15.9805	5.58166	9.75588	12.0587	11.1468	11.0962
1	13.5358	4.57771	7.93915	9.6514	8.99121	8.95376
1.1	9.96366	3.20799	5.54385	6.55133	6.15353	6.13233
1.2	5.15602	1.47868	2.52498	2.66541	2.58285	2.56924
1.3	-0.9965	-0.6366	-1.1763	-2.0234	-1.7111	-1.69
1.4	-8.6041	-3.1521	-5.5313	-7.5256	-6.7865	-6.7527
1.5	-17.808	-6.0938	-10.58	-13.873	-12.636	-12.559
1.6	-28.713	-9.4326	-16.337	-21.064	-19.271	-19.161
1.7	-41.421	-13.203	-22.792	-29.105	-26.68	-26.533
Maximum Mx*6/(p*b^2)						
+/-1.7 max err	17.9966	12.8727	17.4189	25.566	22.9335	22.6758
+/-1.7 min err	-41.421	-13.203	-22.792	-29.105	-26.68	-26.533
+/-1.5 max err	17.9966	6.79969	11.8767	15.202	13.9507	13.8874
+/-1.5 min err	-17.808	-6.8688	-11.195	-15.444	-13.883	-13.717

Table A- 32. Percent Error between Actual and Calculated Center Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	12.6177	-8.433	-103.01	27.3031	-18.579	-1.1252
-1.6	6.84706	-2.0561	-13.689	2.42457	2.56071	0.29356
-1.5	2.03194	0.6443	2.69593	-7.4514	3.66554	0.25798
-1.4	-1.8799	1.88433	8.28458	-11.053	3.38973	0.22425
-1.3	-4.9633	2.39516	10.2342	-11.83	2.94934	0.19237
-1.2	-7.2635	2.52886	10.6052	-11.284	2.4981	0.16235
-1.1	-8.8545	2.43812	10.1422	-10.042	2.03547	0.13418
-1	-9.6603	2.21297	9.20165	-8.5112	1.63963	0.10786
-0.9	-9.9928	1.91417	8.01573	-6.9197	1.27159	0.0834
-0.8	-9.7325	1.53744	6.68949	-5.3176	0.93135	0.06079
-0.7	-8.979	1.18423	5.32518	-3.7525	0.61889	0.04003
-0.6	-7.7665	0.7838	3.91225	-2.3099	0.33424	0.02113
-0.5	-6.2164	0.44414	2.55579	-1.0301	0.07737	0.00408
-0.4	-4.36	0.0938	1.24882	0.16911	-0.1517	-0.0111
-0.3	-2.2435	-0.2292	0.02451	1.20743	-0.353	-0.0245
-0.2	-0.0606	-0.5231	-1.0815	2.08654	-0.5265	-0.036
-0.1	2.30795	-0.7859	-2.1123	2.84653	-0.6722	-0.0456
0	4.57188	-1.0157	-2.9892	3.48756	-0.7901	-0.0534
0.1	6.83684	-1.1687	-3.7536	3.9714	-0.8802	-0.0593
0.2	8.92633	-1.3254	-4.3648	4.29862	-0.9425	-0.0634
0.3	10.8694	-1.3996	-4.8218	4.50766	-0.977	-0.0656
0.4	12.3966	-1.4746	-5.0814	4.56016	-0.9837	-0.066
0.5	13.6008	-1.4613	-5.2263	4.49411	-0.9626	-0.0645
0.6	14.3497	-1.4005	-5.1699	4.30921	-0.9138	-0.0612
0.7	14.5007	-1.336	-4.9523	3.96664	-0.8371	-0.056
0.8	14.0686	-1.1741	-4.5279	3.50422	-0.7327	-0.0489
0.9	12.9207	-0.9581	-3.8936	2.88243	-0.6004	-0.04
1	10.9496	-0.7334	-3.089	2.13922	-0.4404	-0.0293
1.1	8.07977	-0.4513	-2.0679	1.27401	-0.2525	-0.0167
1.2	4.21422	-0.0601	-0.8265	0.24585	-0.0369	-0.0022
1.3	-0.7375	0.34455	0.63866	-0.9066	0.20652	0.01408
1.4	-6.8555	0.76336	2.28988	-2.184	0.47773	0.03225
1.5	-14.246	1.29829	4.2144	-3.5872	0.77674	0.05226
1.6	-23.022	1.85072	6.334	-5.117	1.10355	0.07413
1.7	-33.256	2.47292	8.69441	-6.8177	1.45814	0.09785
Center My*6/(p*b^2)						
+/-1.7 max err	14.5007	2.52886	10.6052	27.3031	3.66554	0.29356
+/-1.7 min err	-33.256	-8.433	-103.01	-11.83	-18.579	-1.1252
+/-1.5 max err	14.5007	2.52886	10.6052	4.56016	3.66554	0.25798
+/-1.5 min err	-14.246	-1.4746	-5.2263	-11.83	-0.9837	-0.066

Table A- 33. Percent Error between Actual and Calculated Center Bending Moment Mx*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	13.9359	-143.17	83.8992	47.2462	-330.74	-4.8926
-1.6	7.63071	-20.75	72.8488	5.95446	10.4745	1.17744
-1.5	2.24164	1.60371	73.2111	-20.839	14.8984	1.0811
-1.4	-2.1923	9.39294	61.3465	-35.157	13.9727	0.93981
-1.3	-5.7514	12.3367	53.2134	-40.769	12.2272	0.80629
-1.2	-8.4222	13.0994	45.8768	-40.942	10.3821	0.68052
-1.1	-10.282	12.7237	39.0784	-37.914	8.60646	0.56252
-1	-11.306	11.6992	32.6882	-33.129	6.93481	0.45228
-0.9	-11.746	10.2847	26.7879	-27.534	5.37908	0.3498
-0.8	-11.488	8.67774	21.2528	-21.62	3.93934	0.25508
-0.7	-10.592	6.93113	16.1051	-15.765	2.6286	0.16812
-0.6	-9.2287	5.17552	11.3324	-10.163	1.43425	0.08893
-0.5	-7.3936	3.40781	6.9453	-4.9392	0.3563	0.01749
-0.4	-5.1617	1.68523	2.963	-0.1835	-0.6053	-0.0462
-0.3	-2.6363	0.05145	-0.6378	4.08042	-1.4504	-0.1021
-0.2	0.05417	-1.4758	-3.8517	7.79654	-2.1792	-0.1502
-0.1	2.82616	-2.8764	-6.6461	10.9658	-2.7916	-0.1906
0	5.65082	-4.1163	-9.0197	13.5895	-3.2876	-0.2233
0.1	8.42144	-5.1919	-10.979	15.647	-3.6672	-0.2481
0.2	11.0192	-6.0644	-12.51	17.1418	-3.9304	-0.2652
0.3	13.3864	-6.7386	-13.61	18.077	-4.0772	-0.2746
0.4	15.3136	-7.1957	-14.242	18.4443	-4.1077	-0.2762
0.5	16.8005	-7.4157	-14.439	18.2567	-4.0217	-0.27
0.6	17.6956	-7.3773	-14.145	17.5157	-3.8193	-0.256
0.7	17.9966	-7.0831	-13.374	16.2223	-3.5006	-0.2343
0.8	17.4287	-6.5107	-12.126	14.3657	-3.0655	-0.2049
0.9	15.9805	-5.637	-10.366	11.9451	-2.5139	-0.1676
1	13.5358	-4.4761	-8.1073	8.98297	-1.846	-0.1227
1.1	9.96366	-2.9792	-5.3282	5.45446	-1.0617	-0.0699
1.2	5.15602	-1.1723	-2.0095	1.36961	-0.161	-0.0094
1.3	-0.9965	0.98135	1.8553	-3.2873	0.8561	0.05887
1.4	-8.6041	3.49354	6.2735	-8.4922	1.98959	0.1349
1.5	-17.808	6.37614	11.2534	-14.261	3.23947	0.21869
1.6	-28.713	9.62948	16.8042	-20.613	4.60575	0.31025
1.7	-41.421	13.289	22.9466	-27.522	6.08841	0.40956
Center Mx*6/(p*b^2)						
+/-1.7 max err	17.9966	13.289	83.8992	47.2462	14.8984	1.17744
+/-1.7 min err	-41.421	-143.17	-14.439	-40.942	-330.74	-4.8926
+/-1.5 max err	17.9966	13.0994	73.2111	18.4443	14.8984	1.0811
+/-1.5 min err	-17.808	-7.4157	-14.439	-40.942	-4.1077	-0.2762

Appendix B
Results of Panel Analysis with Rigidly Clamped Edges

Page

Nomenclature

a, A	panel length
b, B	panel width
E	Young's modulus
P	applied pressure
t	panel thickness
w	normal displacement
M_x	bending moment per unit width acting in the x direction
M_y	bending moment per unit width acting in the y direction
N_x	axial edge force per unit width
N_{xcr}	critical axial edge force per unit width to cause buckling in a simply-supported plate
w_{max}	maximum normal displacement
w_{min}	minimum normal displacement

Table B- 1. Center Displacement $w*E*t^3/(p*b^4)$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.0410	0.0344	0.0134	0.0426	0.0244	0.0281
-1.6	0.0367	0.0352	0.0196	0.0331	0.0281	0.0284
-1.5	0.0332	0.0352	0.0228	0.0303	0.0284	0.0284
-1.4	0.0303	0.0349	0.0247	0.0291	0.0284	0.0284
-1.3	0.0279	0.0345	0.0259	0.0286	0.0284	0.0284
-1.2	0.0258	0.0340	0.0268	0.0284	0.0284	0.0284
-1.1	0.0241	0.0335	0.0274	0.0283	0.0284	0.0284
-1.0	0.0225	0.0329	0.0279	0.0282	0.0284	0.0284
-0.9	0.0212	0.0323	0.0282	0.0283	0.0284	0.0284
-0.8	0.0200	0.0318	0.0284	0.0283	0.0284	0.0284
-0.7	0.0189	0.0312	0.0286	0.0283	0.0284	0.0284
-0.6	0.0180	0.0307	0.0287	0.0284	0.0284	0.0284
-0.5	0.0171	0.0301	0.0287	0.0284	0.0284	0.0284
-0.4	0.0163	0.0296	0.0288	0.0284	0.0284	0.0284
-0.3	0.0156	0.0291	0.0287	0.0284	0.0284	0.0284
-0.2	0.0150	0.0286	0.0287	0.0285	0.0284	0.0284
-0.1	0.0144	0.0281	0.0287	0.0285	0.0284	0.0284
0.0	0.0138	0.0277	0.0286	0.0285	0.0284	0.0284
0.1	0.0133	0.0272	0.0285	0.0285	0.0284	0.0284
0.2	0.0128	0.0268	0.0284	0.0285	0.0284	0.0284
0.3	0.0124	0.0264	0.0283	0.0284	0.0284	0.0284
0.4	0.0120	0.0259	0.0282	0.0284	0.0284	0.0284
0.5	0.0116	0.0255	0.0281	0.0284	0.0284	0.0284
0.6	0.0112	0.0252	0.0279	0.0284	0.0284	0.0284
0.7	0.0109	0.0248	0.0278	0.0283	0.0284	0.0284
0.8	0.0106	0.0244	0.0277	0.0283	0.0284	0.0284
0.9	0.0103	0.0241	0.0275	0.0282	0.0284	0.0284
1.0	0.0100	0.0237	0.0274	0.0282	0.0284	0.0284
1.1	0.0097	0.0234	0.0272	0.0282	0.0284	0.0284
1.2	0.0095	0.0231	0.0271	0.0281	0.0284	0.0284
1.3	0.0092	0.0227	0.0269	0.0280	0.0284	0.0284
1.4	0.0090	0.0224	0.0268	0.0280	0.0284	0.0284
1.5	0.0088	0.0221	0.0266	0.0279	0.0284	0.0284
1.6	0.0086	0.0218	0.0265	0.0279	0.0284	0.0284
1.7	0.0084	0.0215	0.0263	0.0278	0.0284	0.0284

Table B- 2. Center Bending Moment $Mx*6/(p*b^2)$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5190	0.0274	-0.0945	0.2880	0.0138	0.0705
-1.6	0.4550	0.0583	-0.0222	0.1520	0.0682	0.0750
-1.5	0.4040	0.0750	0.0102	0.1120	0.0737	0.0750
-1.4	0.3620	0.0850	0.0286	0.0945	0.0748	0.0750
-1.3	0.3270	0.0913	0.0405	0.0857	0.0750	0.0750
-1.2	0.2980	0.0953	0.0489	0.0808	0.0750	0.0750
-1.1	0.2730	0.0978	0.0550	0.0779	0.0750	0.0750
-1.0	0.2520	0.0993	0.0597	0.0763	0.0750	0.0750
-0.9	0.2340	0.1000	0.0633	0.0753	0.0750	0.0750
-0.8	0.2180	0.1000	0.0662	0.0747	0.0750	0.0750
-0.7	0.2030	0.1000	0.0685	0.0744	0.0750	0.0750
-0.6	0.1910	0.1000	0.0704	0.0743	0.0750	0.0750
-0.5	0.1790	0.0994	0.0719	0.0743	0.0750	0.0750
-0.4	0.1690	0.0987	0.0731	0.0744	0.0750	0.0750
-0.3	0.1600	0.0978	0.0742	0.0745	0.0750	0.0750
-0.2	0.1520	0.0969	0.0750	0.0746	0.0750	0.0750
-0.1	0.1440	0.0959	0.0756	0.0747	0.0750	0.0750
0.0	0.1370	0.0948	0.0762	0.0748	0.0750	0.0750
0.1	0.1310	0.0938	0.0766	0.0749	0.0750	0.0750
0.2	0.1250	0.0927	0.0769	0.0751	0.0750	0.0750
0.3	0.1200	0.0916	0.0771	0.0752	0.0750	0.0750
0.4	0.1150	0.0905	0.0773	0.0752	0.0750	0.0750
0.5	0.1100	0.0893	0.0773	0.0753	0.0750	0.0750
0.6	0.1060	0.0882	0.0774	0.0754	0.0750	0.0750
0.7	0.1020	0.0871	0.0774	0.0754	0.0750	0.0750
0.8	0.0985	0.0860	0.0773	0.0754	0.0750	0.0750
0.9	0.0950	0.0849	0.0772	0.0755	0.0750	0.0750
1.0	0.0917	0.0839	0.0771	0.0755	0.0750	0.0750
1.1	0.0887	0.0828	0.0769	0.0755	0.0750	0.0750
1.2	0.0858	0.0818	0.0768	0.0754	0.0750	0.0750
1.3	0.0831	0.0807	0.0766	0.0754	0.0750	0.0750
1.4	0.0805	0.0797	0.0763	0.0754	0.0750	0.0750
1.5	0.0781	0.0787	0.0761	0.0753	0.0750	0.0750
1.6	0.0758	0.0777	0.0758	0.0752	0.0750	0.0750
1.7	0.0737	0.0768	0.0756	0.0752	0.0750	0.0750

Table B- 3. Center Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.4670	0.2890	0.0800	0.4230	0.2000	0.2460
-1.6	0.4130	0.3030	0.1510	0.3090	0.2450	0.25
-1.5	0.3700	0.3080	0.1860	0.2750	0.2490	0.25
-1.4	0.3350	0.3080	0.2070	0.2610	0.25	0.25
-1.3	0.3050	0.3050	0.2210	0.2540	0.25	0.25
-1.2	0.2800	0.3020	0.2300	0.2510	0.25	0.25
-1.1	0.2590	0.2980	0.2370	0.2490	0.25	0.25
-1.0	0.2410	0.2930	0.2420	0.2490	0.25	0.25
-0.9	0.2240	0.2890	0.2450	0.2490	0.25	0.25
-0.8	0.2100	0.2840	0.2480	0.2490	0.25	0.25
-0.7	0.1980	0.2790	0.2500	0.2490	0.25	0.25
-0.6	0.1860	0.2740	0.2510	0.2490	0.25	0.25
-0.5	0.1760	0.2690	0.2520	0.2490	0.25	0.25
-0.4	0.1670	0.2650	0.2520	0.2500	0.25	0.25
-0.3	0.1580	0.2600	0.2520	0.2500	0.25	0.25
-0.2	0.1510	0.2560	0.2520	0.2500	0.25	0.25
-0.1	0.1440	0.2510	0.2520	0.2500	0.25	0.25
0.0	0.1370	0.2470	0.2510	0.2500	0.25	0.25
0.1	0.1320	0.2430	0.2510	0.2500	0.25	0.25
0.2	0.1260	0.2390	0.2500	0.2500	0.25	0.25
0.3	0.1210	0.2350	0.2490	0.2500	0.25	0.25
0.4	0.1160	0.2310	0.2480	0.2500	0.25	0.25
0.5	0.1120	0.2270	0.2470	0.2500	0.25	0.25
0.6	0.1080	0.2240	0.2460	0.2490	0.25	0.25
0.7	0.1040	0.2200	0.2450	0.2490	0.25	0.25
0.8	0.1000	0.2170	0.2440	0.2490	0.25	0.25
0.9	0.0968	0.2130	0.2420	0.2480	0.25	0.25
1.0	0.0936	0.2100	0.2410	0.2480	0.25	0.25
1.1	0.0906	0.2070	0.2400	0.2480	0.25	0.25
1.2	0.0877	0.2040	0.2380	0.2470	0.25	0.25
1.3	0.0850	0.2010	0.2370	0.2470	0.25	0.25
1.4	0.0825	0.1980	0.2360	0.2460	0.25	0.25
1.5	0.0800	0.1950	0.2340	0.2460	0.25	0.25
1.6	0.0777	0.1920	0.2330	0.2450	0.25	0.25
1.7	0.0755	0.1900	0.2320	0.2440	0.25	0.25

Table B- 4. Maximum Displacement wmax*E*t^3/(p*b^4)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.0410	0.0373	0.0471	0.0484	0.0468	0.0466
-1.6	0.0367	0.0363	0.0417	0.0412	0.0409	0.0409
-1.5	0.0332	0.0356	0.0385	0.0379	0.0379	0.0379
-1.4	0.0303	0.0350	0.0363	0.0358	0.0359	0.0359
-1.3	0.0279	0.0345	0.0346	0.0343	0.0344	0.0344
-1.2	0.0258	0.0340	0.0333	0.0332	0.0332	0.0332
-1.1	0.0241	0.0335	0.0323	0.0323	0.0323	0.0323
-1.0	0.0225	0.0329	0.0315	0.0315	0.0315	0.0315
-0.9	0.0212	0.0323	0.0309	0.0309	0.0309	0.0309
-0.8	0.0200	0.0318	0.0303	0.0304	0.0304	0.0304
-0.7	0.0189	0.0312	0.0299	0.0299	0.0299	0.0299
-0.6	0.0180	0.0307	0.0295	0.0296	0.0296	0.0296
-0.5	0.0171	0.0301	0.0293	0.0293	0.0293	0.0293
-0.4	0.0163	0.0296	0.0290	0.0290	0.0290	0.0290
-0.3	0.0156	0.0291	0.0289	0.0288	0.0288	0.0288
-0.2	0.0150	0.0286	0.0287	0.0287	0.0287	0.0287
-0.1	0.0144	0.0281	0.0287	0.0286	0.0286	0.0286
0.0	0.0138	0.0277	0.0286	0.0285	0.0285	0.0285
0.1	0.0133	0.0272	0.0285	0.0285	0.0285	0.0285
0.2	0.0128	0.0268	0.0284	0.0285	0.0284	0.0284
0.3	0.0124	0.0264	0.0283	0.0284	0.0284	0.0284
0.4	0.0120	0.0259	0.0282	0.0284	0.0284	0.0284
0.5	0.0116	0.0255	0.0281	0.0284	0.0284	0.0284
0.6	0.0112	0.0252	0.0279	0.0284	0.0284	0.0284
0.7	0.0109	0.0248	0.0278	0.0283	0.0284	0.0284
0.8	0.0106	0.0244	0.0277	0.0283	0.0284	0.0284
0.9	0.0103	0.0241	0.0275	0.0282	0.0284	0.0284
1.0	0.0100	0.0237	0.0274	0.0282	0.0284	0.0284
1.1	0.0097	0.0234	0.0272	0.0282	0.0284	0.0284
1.2	0.0095	0.0231	0.0271	0.0281	0.0284	0.0284
1.3	0.0092	0.0227	0.0269	0.0280	0.0284	0.0284
1.4	0.0090	0.0224	0.0268	0.0280	0.0284	0.0284
1.5	0.0088	0.0221	0.0266	0.0279	0.0284	0.0284
1.6	0.0086	0.0218	0.0265	0.0279	0.0284	0.0284
1.7	0.0084	0.0215	0.0263	0.0278	0.0284	0.0284

Table B- 5. Longitudinal Location x/a of wmax

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0.1610	0.2660	0.3330	0.4170	0.4590
-1.6	0	0.1290	0.2660	0.3330	0.4130	0.4570
-1.5	0	0.1130	0.2660	0.3250	0.4130	0.4570
-1.4	0	0.0806	0.2550	0.3170	0.4090	0.4550
-1.3	0	0.0161	0.2550	0.3170	0.4060	0.4530
-1.2	0	0	0.2450	0.3100	0.4060	0.4530
-1.1	0	0	0.2340	0.3020	0.4020	0.4510
-1.0	0	0	0.2340	0.2940	0.3980	0.4490
-0.9	0	0	0.2230	0.2860	0.3940	0.4470
-0.8	0	0	0.2130	0.2780	0.3900	0.4450
-0.7	0	0	0.2020	0.2700	0.3860	0.4430
-0.6	0	0	0.1810	0.2620	0.3820	0.4410
-0.5	0	0	0.1700	0.2540	0.3740	0.4370
-0.4	0	0	0.1490	0.2380	0.3700	0.4350
-0.3	0	0	0.1280	0.2220	0.3620	0.4290
-0.2	0	0	0.0851	0.1980	0.3500	0.4250
-0.1	0	0	0	0.1750	0.3390	0.4200
0.0	0	0	0	0.1430	0.3230	0.4120
0.1	0	0	0	0.1030	0.3030	0.4020
0.2	0	0	0	0	0.2720	0.3860
0.3	0	0	0	0	0.2170	0.3590
0.4	0	0	0	0	0.0866	0.2940
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1.0	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table B- 6. Transverse Location y/b of wmax

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1.0	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0.0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1.0	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table B- 7. Minimum Displacement wmin*E*t³/(p*b⁴)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1.0	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0.0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1.0	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table B- 8. Longitudinal Location x/a of wmin

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5	0.5	0.5	0.5	0.5	0.5
-1.6	0.5	0.5	0.5	0.5	0.5	0.5
-1.5	0.5	0.5	0.5	0.5	0.5	0.5
-1.4	0.5	0.5	0.5	0.5	0.5	0.5
-1.3	0.5	0.5	0.5	0.5	0.5	0.5
-1.2	0.5	0.5	0.5	0.5	0.5	0.5
-1.1	0.5	0.5	0.5	0.5	0.5	0.5
-1.0	0.5	0.5	0.5	0.5	0.5	0.5
-0.9	0.5	0.5	0.5	0.5	0.5	0.5
-0.8	0.5	0.5	0.5	0.5	0.5	0.5
-0.7	0.5	0.5	0.5	0.5	0.5	0.5
-0.6	0.5	0.5	0.5	0.5	0.5	0.5
-0.5	0.5	0.5	0.5	0.5	0.5	0.5
-0.4	0.5	0.5	0.5	0.5	0.5	0.5
-0.3	0.5	0.5	0.5	0.5	0.5	0.5
-0.2	0.5	0.5	0.5	0.5	0.5	0.5
-0.1	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.5	0.5	0.5	0.5	0.5	0.5
0.1	0.5	0.5	0.5	0.5	0.5	0.5
0.2	0.5	0.5	0.5	0.5	0.5	0.5
0.3	0.5	0.5	0.5	0.5	0.5	0.5
0.4	0.5	0.5	0.5	0.5	0.5	0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.5	0.5	0.5	0.5	0.5	0.5
0.7	0.5	0.5	0.5	0.5	0.5	0.5
0.8	0.5	0.5	0.5	0.5	0.5	0.5
0.9	0.5	0.5	0.5	0.5	0.5	0.5
1.0	0.5	0.5	0.5	0.5	0.5	0.5
1.1	0.5	0.5	0.5	0.5	0.5	0.5
1.2	0.5	0.5	0.5	0.5	0.5	0.5
1.3	0.5	0.5	0.5	0.5	0.5	0.5
1.4	0.5	0.5	0.5	0.5	0.5	0.5
1.5	0.5	0.5	0.5	0.5	0.5	0.5
1.6	0.5	0.5	0.5	0.5	0.5	0.5
1.7	0.5	0.5	0.5	0.5	0.5	0.5

Table B- 9. Transverse Location y/b of wmin

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-1.6	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-1.5	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-1.4	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-1.3	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-1.2	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-1.1	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-1.0	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-0.9	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-0.8	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-0.7	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-0.6	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-0.5	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-0.4	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-0.3	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-0.2	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
-0.1	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.0	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.1	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.2	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.3	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.4	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.5	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.6	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.7	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.8	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
0.9	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
1.0	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
1.1	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
1.2	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
1.3	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
1.4	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
1.5	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
1.6	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330
1.7	0.4330	0.4330	0.4330	0.4330	0.4330	0.4330

Table B- 10. Maximum Bending Moment $Mx*6/(p*b^2)$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5190	0.2550	0.3200	0.3770	0.3560	0.3540
-1.6	0.4550	0.2230	0.2700	0.2840	0.2780	0.2780
-1.5	0.4040	0.2030	0.2380	0.2420	0.2400	0.2400
-1.4	0.3620	0.1880	0.2150	0.2160	0.2150	0.2150
-1.3	0.3270	0.1760	0.1970	0.1970	0.1960	0.1960
-1.2	0.2980	0.1670	0.1820	0.1820	0.1820	0.1820
-1.1	0.2730	0.1580	0.1700	0.1700	0.1700	0.1700
-1.0	0.2520	0.1510	0.1600	0.1600	0.1600	0.1600
-0.9	0.2340	0.1450	0.1520	0.1510	0.1510	0.1510
-0.8	0.2180	0.1390	0.1440	0.1440	0.1440	0.1440
-0.7	0.2030	0.1340	0.1380	0.1380	0.1380	0.1370
-0.6	0.1910	0.1290	0.1320	0.1320	0.1320	0.1320
-0.5	0.1790	0.1250	0.1270	0.1270	0.1270	0.1270
-0.4	0.1690	0.1210	0.1220	0.1220	0.1220	0.1220
-0.3	0.1600	0.1170	0.1180	0.1180	0.1180	0.1180
-0.2	0.1520	0.1140	0.1140	0.1140	0.1140	0.1140
-0.1	0.1440	0.1110	0.1100	0.1100	0.1100	0.1100
0.0	0.1370	0.1080	0.1070	0.1070	0.1070	0.1070
0.1	0.1310	0.1050	0.1040	0.1040	0.1040	0.1040
0.2	0.1250	0.1030	0.1010	0.1010	0.1010	0.1010
0.3	0.1200	0.1000	0.0987	0.0987	0.0987	0.0987
0.4	0.1150	0.0977	0.0963	0.0963	0.0963	0.0963
0.5	0.1100	0.0955	0.0941	0.0940	0.0941	0.0941
0.6	0.1060	0.0935	0.0920	0.0920	0.0920	0.0920
0.7	0.1020	0.0915	0.0901	0.0900	0.0900	0.0900
0.8	0.0985	0.0896	0.0882	0.0882	0.0882	0.0882
0.9	0.0950	0.0879	0.0865	0.0865	0.0865	0.0864
1.0	0.0917	0.0862	0.0849	0.0848	0.0848	0.0849
1.1	0.0887	0.0846	0.0834	0.0834	0.0833	0.0833
1.2	0.0858	0.0831	0.0820	0.0819	0.0819	0.0819
1.3	0.0831	0.0817	0.0807	0.0806	0.0806	0.0806
1.4	0.0805	0.0803	0.0795	0.0794	0.0794	0.0794
1.5	0.0781	0.0791	0.0783	0.0783	0.0783	0.0783
1.6	0.0758	0.0779	0.0773	0.0772	0.0772	0.0772
1.7	0.0737	0.0768	0.0764	0.0763	0.0763	0.0763

Table B- 11. Longitudinal Location x/a of max Mx

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0.2420	0.2770	0.3410	0.4210	0.4610
-1.6	0	0.2260	0.2980	0.3490	0.4250	0.4630
-1.5	0	0.2260	0.2980	0.3570	0.4290	0.4650
-1.4	0	0.2260	0.3090	0.3570	0.4290	0.4650
-1.3	0	0.2260	0.3090	0.3570	0.4290	0.4650
-1.2	0	0.2260	0.3090	0.3570	0.4290	0.4650
-1.1	0	0.2260	0.3190	0.3650	0.4290	0.4650
-1.0	0	0.2260	0.3190	0.3650	0.4330	0.4670
-0.9	0	0.2260	0.3190	0.3650	0.4330	0.4670
-0.8	0	0.2260	0.3190	0.3650	0.4330	0.4670
-0.7	0	0.2260	0.3190	0.3650	0.4330	0.4670
-0.6	0	0.2260	0.3190	0.3650	0.4330	0.4670
-0.5	0	0.2260	0.3190	0.3650	0.4330	0.4670
-0.4	0	0.2260	0.3190	0.3650	0.4330	0.4670
-0.3	0	0.2260	0.3190	0.3650	0.4330	0.4670
-0.2	0	0.2260	0.3190	0.3650	0.4330	0.4670
-0.1	0	0.2260	0.3190	0.3650	0.4330	0.4670
0.0	0	0.2260	0.3190	0.3650	0.4330	0.4670
0.1	0	0.2260	0.3190	0.3650	0.4330	0.4670
0.2	0	0.2260	0.3190	0.3650	0.4330	0.4670
0.3	0	0.2260	0.3190	0.3650	0.4330	0.4670
0.4	0	0.2100	0.3190	0.3650	0.4290	0.4650
0.5	0	0.2100	0.3190	0.3570	0.4290	0.4650
0.6	0	0.2100	0.3090	0.3570	0.4290	0.4650
0.7	0	0.2100	0.3090	0.3570	0.4290	0.4650
0.8	0	0.2100	0.3090	0.3570	0.4290	0.4650
0.9	0	0.1940	0.3090	0.3570	0.4290	0.4650
1.0	0	0.1940	0.3090	0.3490	0.4250	0.4630
1.1	0	0.1940	0.2980	0.3490	0.4250	0.4630
1.2	0	0.1770	0.2980	0.3490	0.4250	0.4630
1.3	0	0.1770	0.2870	0.3410	0.4210	0.4610
1.4	0	0.1610	0.2870	0.3410	0.4210	0.4610
1.5	0	0.1450	0.2770	0.3330	0.4170	0.4590
1.6	0	0.1290	0.2660	0.3250	0.4130	0.4570
1.7	0	0.0968	0.2550	0.3170	0.4060	0.4530

Table B- 12. Transverse Location y/b of max Mx

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1.0	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0.0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1.0	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table B- 13. Minimum Bending Moment $Mx*6/(p*b^2)$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	-0.5250	-0.3480	-0.3250	-0.3540	-0.3530	-0.3520
-1.6	-0.4950	-0.3400	-0.3400	-0.3510	-0.3500	-0.3500
-1.5	-0.4700	-0.3370	-0.3440	-0.3490	-0.3480	-0.3480
-1.4	-0.4490	-0.3370	-0.3450	-0.3470	-0.3470	-0.3470
-1.3	-0.4310	-0.3370	-0.3450	-0.3460	-0.3460	-0.3460
-1.2	-0.4150	-0.3380	-0.3450	-0.3450	-0.3450	-0.3450
-1.1	-0.4010	-0.3390	-0.3440	-0.3440	-0.3440	-0.3440
-1.0	-0.3880	-0.3390	-0.3440	-0.3440	-0.3440	-0.3440
-0.9	-0.3770	-0.3400	-0.3430	-0.3430	-0.3430	-0.3430
-0.8	-0.3660	-0.3410	-0.3430	-0.3430	-0.3430	-0.3430
-0.7	-0.3570	-0.3410	-0.3420	-0.3420	-0.3420	-0.3420
-0.6	-0.3480	-0.3410	-0.3420	-0.3420	-0.3420	-0.3420
-0.5	-0.3400	-0.3410	-0.3410	-0.3410	-0.3410	-0.3410
-0.4	-0.3320	-0.3410	-0.3410	-0.3410	-0.3410	-0.3410
-0.3	-0.3250	-0.3410	-0.3410	-0.3410	-0.3410	-0.3410
-0.2	-0.3190	-0.3410	-0.3410	-0.3410	-0.3410	-0.3410
-0.1	-0.3130	-0.3410	-0.3400	-0.3400	-0.3400	-0.3400
0.0	-0.3070	-0.3410	-0.3400	-0.3400	-0.3400	-0.3400
0.1	-0.3020	-0.3400	-0.3400	-0.3400	-0.3400	-0.3400
0.2	-0.2960	-0.3400	-0.3400	-0.3400	-0.3400	-0.3400
0.3	-0.2910	-0.3390	-0.3390	-0.3390	-0.3390	-0.3390
0.4	-0.2870	-0.3390	-0.3390	-0.3390	-0.3390	-0.3390
0.5	-0.2820	-0.3380	-0.3390	-0.3390	-0.3390	-0.3390
0.6	-0.2780	-0.3370	-0.3390	-0.3390	-0.3390	-0.3390
0.7	-0.2740	-0.3370	-0.3390	-0.3390	-0.3390	-0.3390
0.8	-0.2700	-0.3360	-0.3390	-0.3390	-0.3390	-0.3390
0.9	-0.2670	-0.3350	-0.3380	-0.3380	-0.3380	-0.3380
1.0	-0.2630	-0.3340	-0.3380	-0.3380	-0.3380	-0.3380
1.1	-0.2600	-0.3330	-0.3380	-0.3380	-0.3380	-0.3380
1.2	-0.2560	-0.3320	-0.3380	-0.3380	-0.3380	-0.3380
1.3	-0.2530	-0.3320	-0.3380	-0.3380	-0.3380	-0.3380
1.4	-0.2500	-0.3310	-0.3370	-0.3380	-0.3380	-0.3380
1.5	-0.2470	-0.3300	-0.3370	-0.3380	-0.3380	-0.3380
1.6	-0.2440	-0.3290	-0.3370	-0.3380	-0.3380	-0.3380
1.7	-0.2420	-0.3280	-0.3370	-0.3370	-0.3380	-0.3380

Table B- 14. Longitudinal Location x/a of min Mx

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5	0.5	0.5	0.5	0.5	0.5
-1.6	0.5	0.5	0.5	0.5	0.5	0.5
-1.5	0.5	0.5	0.5	0.5	0.5	0.5
-1.4	0.5	0.5	0.5	0.5	0.5	0.5
-1.3	0.5	0.5	0.5	0.5	0.5	0.5
-1.2	0.5	0.5	0.5	0.5	0.5	0.5
-1.1	0.5	0.5	0.5	0.5	0.5	0.5
-1.0	0.5	0.5	0.5	0.5	0.5	0.5
-0.9	0.5	0.5	0.5	0.5	0.5	0.5
-0.8	0.5	0.5	0.5	0.5	0.5	0.5
-0.7	0.5	0.5	0.5	0.5	0.5	0.5
-0.6	0.5	0.5	0.5	0.5	0.5	0.5
-0.5	0.5	0.5	0.5	0.5	0.5	0.5
-0.4	0.5	0.5	0.5	0.5	0.5	0.5
-0.3	0.5	0.5	0.5	0.5	0.5	0.5
-0.2	0.5	0.5	0.5	0.5	0.5	0.5
-0.1	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.5	0.5	0.5	0.5	0.5	0.5
0.1	0.5	0.5	0.5	0.5	0.5	0.5
0.2	0.5	0.5	0.5	0.5	0.5	0.5
0.3	0.5	0.5	0.5	0.5	0.5	0.5
0.4	0.5	0.5	0.5	0.5	0.5	0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.5	0.5	0.5	0.5	0.5	0.5
0.7	0.5	0.5	0.5	0.5	0.5	0.5
0.8	0.5	0.5	0.5	0.5	0.5	0.5
0.9	0.5	0.5	0.5	0.5	0.5	0.5
1.0	0.5	0.5	0.5	0.5	0.5	0.5
1.1	0.5	0.5	0.5	0.5	0.5	0.5
1.2	0.5	0.5	0.5	0.5	0.5	0.5
1.3	0.5	0.5	0.5	0.5	0.5	0.5
1.4	0.5	0.5	0.5	0.5	0.5	0.5
1.5	0.5	0.5	0.5	0.5	0.5	0.5
1.6	0.5	0.5	0.5	0.5	0.5	0.5
1.7	0.5	0.5	0.5	0.5	0.5	0.5

Table B- 15. Transverse Location y/b of min Mx

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1.0	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0.0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1.0	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table B- 16. Maximum Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.4670	0.3610	0.4680	0.4930	0.4740	0.4720
-1.6	0.4130	0.3430	0.4080	0.4070	0.4020	0.4020
-1.5	0.3700	0.3300	0.3710	0.3670	0.3660	0.3660
-1.4	0.3350	0.3200	0.3450	0.3420	0.3410	0.3410
-1.3	0.3050	0.3120	0.3260	0.3230	0.3230	0.3230
-1.2	0.2800	0.3050	0.3110	0.3090	0.3090	0.3090
-1.1	0.2590	0.2990	0.2990	0.2980	0.2980	0.2980
-1.0	0.2410	0.2930	0.2890	0.2880	0.2880	0.2880
-0.9	0.2240	0.2890	0.2810	0.2810	0.2810	0.2810
-0.8	0.2100	0.2840	0.2740	0.2740	0.2740	0.2740
-0.7	0.1980	0.2790	0.2690	0.2690	0.2690	0.2690
-0.6	0.1860	0.2740	0.2640	0.2640	0.2640	0.2640
-0.5	0.1760	0.2690	0.2600	0.2600	0.2610	0.2610
-0.4	0.1670	0.2650	0.2570	0.2570	0.2570	0.2570
-0.3	0.1580	0.2600	0.2550	0.2550	0.2550	0.2550
-0.2	0.1510	0.2560	0.2530	0.2530	0.2530	0.2530
-0.1	0.1440	0.2510	0.2520	0.2520	0.2520	0.2520
0.0	0.1370	0.2470	0.2510	0.2510	0.2510	0.2510
0.1	0.1320	0.2430	0.2510	0.25	0.25	0.25
0.2	0.1260	0.2390	0.25	0.25	0.25	0.25
0.3	0.1210	0.2350	0.2490	0.25	0.25	0.25
0.4	0.1160	0.2310	0.2480	0.25	0.25	0.25
0.5	0.1120	0.2270	0.2470	0.25	0.25	0.25
0.6	0.1080	0.2240	0.2460	0.2490	0.25	0.25
0.7	0.1040	0.2200	0.2450	0.2490	0.25	0.25
0.8	0.1000	0.2170	0.2440	0.2490	0.25	0.25
0.9	0.0968	0.2130	0.2420	0.2480	0.25	0.25
1.0	0.0936	0.2100	0.2410	0.2480	0.25	0.25
1.1	0.0906	0.2070	0.2400	0.2480	0.25	0.25
1.2	0.0877	0.2040	0.2380	0.2470	0.25	0.25
1.3	0.0850	0.2010	0.2370	0.2470	0.25	0.25
1.4	0.0825	0.1980	0.2360	0.2460	0.25	0.25
1.5	0.0800	0.1950	0.2340	0.2460	0.25	0.25
1.6	0.0777	0.1920	0.2330	0.2450	0.25	0.25
1.7	0.0755	0.1900	0.2320	0.2440	0.25	0.25

Table B- 17. Longitudinal location x/a of max My

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0.1940	0.2660	0.3330	0.4170	0.4590
-1.6	0	0.1770	0.2770	0.3330	0.4170	0.4590
-1.5	0	0.1610	0.2770	0.3330	0.4170	0.4590
-1.4	0	0.1450	0.2660	0.3330	0.4130	0.4570
-1.3	0	0.1290	0.2660	0.3250	0.4130	0.4570
-1.2	0	0.1130	0.2660	0.3250	0.4130	0.4550
-1.1	0	0.0806	0.2550	0.3170	0.4090	0.4550
-1.0	0	0.0484	0.2550	0.3100	0.4060	0.4530
-0.9	0	0	0.2450	0.3100	0.4060	0.4510
-0.8	0	0	0.2340	0.3020	0.4020	0.4510
-0.7	0	0	0.2230	0.2940	0.3980	0.4490
-0.6	0	0	0.2130	0.2860	0.3940	0.4450
-0.5	0	0	0.2020	0.2700	0.3860	0.4430
-0.4	0	0	0.1810	0.2620	0.3820	0.4390
-0.3	0	0	0.1600	0.2460	0.3740	0.4370
-0.2	0	0	0.1280	0.2300	0.3620	0.4310
-0.1	0	0	0.0851	0.2060	0.3500	0.4250
0.0	0	0	0	0.1750	0.3350	0.4180
0.1	0	0	0	0.1270	0.3150	0.4080
0.2	0	0	0	0.0476	0.2830	0.3920
0.3	0	0	0	0	0.2280	0.3650
0.4	0	0	0	0	0.0984	0.3000
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1.0	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table B- 18. Transverse location y/b of max My

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0	0	0	0	0
-1.6	0	0	0	0	0	0
-1.5	0	0	0	0	0	0
-1.4	0	0	0	0	0	0
-1.3	0	0	0	0	0	0
-1.2	0	0	0	0	0	0
-1.1	0	0	0	0	0	0
-1.0	0	0	0	0	0	0
-0.9	0	0	0	0	0	0
-0.8	0	0	0	0	0	0
-0.7	0	0	0	0	0	0
-0.6	0	0	0	0	0	0
-0.5	0	0	0	0	0	0
-0.4	0	0	0	0	0	0
-0.3	0	0	0	0	0	0
-0.2	0	0	0	0	0	0
-0.1	0	0	0	0	0	0
0.0	0	0	0	0	0	0
0.1	0	0	0	0	0	0
0.2	0	0	0	0	0	0
0.3	0	0	0	0	0	0
0.4	0	0	0	0	0	0
0.5	0	0	0	0	0	0
0.6	0	0	0	0	0	0
0.7	0	0	0	0	0	0
0.8	0	0	0	0	0	0
0.9	0	0	0	0	0	0
1.0	0	0	0	0	0	0
1.1	0	0	0	0	0	0
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table B- 19. Minimum Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	-0.8220	-0.6750	-0.8540	-0.8900	-0.8600	-0.8570
-1.6	-0.7390	-0.6490	-0.7560	-0.7530	-0.7460	-0.7450
-1.5	-0.6730	-0.6310	-0.6970	-0.6890	-0.6870	-0.6870
-1.4	-0.6180	-0.6160	-0.6550	-0.6490	-0.6490	-0.6490
-1.3	-0.5720	-0.6040	-0.6240	-0.6200	-0.6200	-0.6200
-1.2	-0.5330	-0.5930	-0.6000	-0.5970	-0.5970	-0.5970
-1.1	-0.5000	-0.5840	-0.5810	-0.5790	-0.5790	-0.5790
-1.0	-0.4710	-0.5750	-0.5650	-0.5640	-0.5640	-0.5640
-0.9	-0.4450	-0.5670	-0.5520	-0.5520	-0.5520	-0.5520
-0.8	-0.4230	-0.5590	-0.5410	-0.5410	-0.5410	-0.5410
-0.7	-0.4030	-0.5510	-0.5320	-0.5320	-0.5320	-0.5320
-0.6	-0.3850	-0.5430	-0.5250	-0.5250	-0.5250	-0.5250
-0.5	-0.3690	-0.5350	-0.5180	-0.5190	-0.5190	-0.5190
-0.4	-0.3540	-0.5270	-0.5130	-0.5140	-0.5140	-0.5140
-0.3	-0.3410	-0.5190	-0.5090	-0.5100	-0.5100	-0.5100
-0.2	-0.3290	-0.5120	-0.5060	-0.5060	-0.5060	-0.5060
-0.1	-0.3170	-0.5040	-0.5040	-0.5040	-0.5040	-0.5040
0.0	-0.3070	-0.4970	-0.5030	-0.5020	-0.5020	-0.5020
0.1	-0.2980	-0.4900	-0.5020	-0.5010	-0.5010	-0.5010
0.2	-0.2890	-0.4830	-0.5	-0.5	-0.5	-0.5
0.3	-0.2810	-0.4770	-0.4990	-0.5	-0.5	-0.5
0.4	-0.2730	-0.4700	-0.4970	-0.5	-0.5	-0.5
0.5	-0.2660	-0.4640	-0.4950	-0.4990	-0.5	-0.5
0.6	-0.2590	-0.4580	-0.4940	-0.4990	-0.5	-0.5
0.7	-0.2530	-0.4520	-0.4920	-0.4990	-0.5	-0.5
0.8	-0.2470	-0.4470	-0.4900	-0.4980	-0.5	-0.5
0.9	-0.2410	-0.4410	-0.4880	-0.4970	-0.5	-0.5
1.0	-0.2360	-0.4360	-0.4860	-0.4970	-0.5	-0.5
1.1	-0.2310	-0.4300	-0.4840	-0.4960	-0.5	-0.5
1.2	-0.2260	-0.4250	-0.4810	-0.4950	-0.5	-0.5
1.3	-0.2220	-0.4200	-0.4790	-0.4950	-0.5	-0.5
1.4	-0.2180	-0.4150	-0.4770	-0.4940	-0.5	-0.5
1.5	-0.2140	-0.4110	-0.4750	-0.4930	-0.5	-0.5
1.6	-0.2100	-0.4060	-0.4720	-0.4920	-0.5	-0.5
1.7	-0.2060	-0.4020	-0.4700	-0.4910	-0.5	-0.5

Table B- 20. Longitudinal Location x/a of min My

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0	0.1940	0.2660	0.3330	0.4170	0.4590
-1.6	0	0.1610	0.2660	0.3330	0.4170	0.4590
-1.5	0	0.1450	0.2660	0.3330	0.4170	0.4570
-1.4	0	0.1290	0.2660	0.3250	0.4130	0.4570
-1.3	0	0.1130	0.2660	0.3250	0.4130	0.4570
-1.2	0	0.0968	0.2550	0.3170	0.4090	0.4550
-1.1	0	0.0645	0.2550	0.3170	0.4090	0.4550
-1.0	0	0	0.2450	0.3100	0.4060	0.4530
-0.9	0	0	0.2450	0.3020	0.4020	0.4510
-0.8	0	0	0.2340	0.3020	0.3980	0.4490
-0.7	0	0	0.2230	0.2940	0.3980	0.4470
-0.6	0	0	0.2130	0.2860	0.3900	0.4450
-0.5	0	0	0.2020	0.2700	0.3860	0.4430
-0.4	0	0	0.1810	0.2620	0.3820	0.4410
-0.3	0	0	0.1600	0.2460	0.3740	0.4370
-0.2	0	0	0.1380	0.2300	0.3660	0.4330
-0.1	0	0	0.1060	0.2060	0.3540	0.4270
0.0	0	0	0.0213	0.1830	0.3430	0.4220
0.1	0	0	0	0.1430	0.3230	0.4120
0.2	0	0	0	0.0794	0.2910	0.3960
0.3	0	0	0	0	0.2440	0.3730
0.4	0	0	0	0	0.1180	0.3100
0.5	0	0	0	0	0	0.2120
0.6	0	0	0	0	0	0.1690
0.7	0	0	0	0	0	0.1370
0.8	0	0	0	0	0	0.1100
0.9	0	0	0	0	0	0.0824
1.0	0	0	0	0	0	0.0549
1.1	0	0	0	0	0	0.0078
1.2	0	0	0	0	0	0
1.3	0	0	0	0	0	0
1.4	0	0	0	0	0	0
1.5	0	0	0	0	0	0
1.6	0	0	0	0	0	0
1.7	0	0	0	0	0	0

Table B- 21. Transverse Location y/b of min My

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.5	0.5	0.5	0.5	0.5	0.5
-1.6	0.5	0.5	0.5	0.5	0.5	0.5
-1.5	0.5	0.5	0.5	0.5	0.5	0.5
-1.4	0.5	0.5	0.5	0.5	0.5	0.5
-1.3	0.5	0.5	0.5	0.5	0.5	0.5
-1.2	0.5	0.5	0.5	0.5	0.5	0.5
-1.1	0.5	0.5	0.5	0.5	0.5	0.5
-1.0	0.5	0.5	0.5	0.5	0.5	0.5
-0.9	0.5	0.5	0.5	0.5	0.5	0.5
-0.8	0.5	0.5	0.5	0.5	0.5	0.5
-0.7	0.5	0.5	0.5	0.5	0.5	0.5
-0.6	0.5	0.5	0.5	0.5	0.5	0.5
-0.5	0.5	0.5	0.5	0.5	0.5	0.5
-0.4	0.5	0.5	0.5	0.5	0.5	0.5
-0.3	0.5	0.5	0.5	0.5	0.5	0.5
-0.2	0.5	0.5	0.5	0.5	0.5	0.5
-0.1	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.5	0.5	0.5	0.5	0.5	0.5
0.1	0.5	0.5	0.5	0.5	0.5	0.5
0.2	0.5	0.5	0.5	0.5	0.5	0.5
0.3	0.5	0.5	0.5	0.5	0.5	0.5
0.4	0.5	0.5	0.5	0.5	0.5	0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.5	0.5	0.5	0.5	0.5	0.5
0.7	0.5	0.5	0.5	0.5	0.5	0.5
0.8	0.5	0.5	0.5	0.5	0.5	0.5
0.9	0.5	0.5	0.5	0.5	0.5	0.5
1.0	0.5	0.5	0.5	0.5	0.5	0.5
1.1	0.5	0.5	0.5	0.5	0.5	0.5
1.2	0.5	0.5	0.5	0.5	0.5	0.5
1.3	0.5	0.5	0.5	0.5	0.5	0.5
1.4	0.5	0.5	0.5	0.5	0.5	0.5
1.5	0.5	0.5	0.5	0.5	0.5	0.5
1.6	0.5	0.5	0.5	0.5	0.5	0.5
1.7	0.5	0.5	0.5	0.5	0.5	0.5

Table B- 22. Minimum Bending Moment My*6/(p*b^2) Calculation from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	-0.2976	-0.4954	-0.4913	-0.491	-0.4923	-0.4924
a2=	0.14323	0.07325	0.06649	0.06142	0.05755	0.05736
a3=	-0.066	-0.0121	-0.0454	-0.0506	-0.0498	-0.0496

Calculated from polynomial: G(x)=a1+a2(x)+a3(x^2)

Minimum My*6/(p*b^2) = a1 + a2 (Nx/Nxcr) + a3 (Nx/Nxcr)^2

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	-0.7318	-0.6547	-0.7356	-0.7417	-0.7341	-0.7332
-1.6	-0.6957	-0.6434	-0.714	-0.7189	-0.7119	-0.7111
-1.5	-0.6609	-0.6324	-0.6932	-0.697	-0.6907	-0.69
-1.4	-0.6275	-0.6215	-0.6734	-0.6762	-0.6705	-0.6699
-1.3	-0.5953	-0.611	-0.6545	-0.6564	-0.6513	-0.6507
-1.2	-0.5645	-0.6006	-0.6365	-0.6376	-0.6331	-0.6326
-1.1	-0.535	-0.5905	-0.6194	-0.6198	-0.6159	-0.6155
-1	-0.5068	-0.5807	-0.6032	-0.603	-0.5996	-0.5993
-0.9	-0.4799	-0.5711	-0.5879	-0.5873	-0.5844	-0.5842
-0.8	-0.4544	-0.5617	-0.5735	-0.5725	-0.5702	-0.57
-0.7	-0.4302	-0.5525	-0.5601	-0.5588	-0.557	-0.5568
-0.6	-0.4073	-0.5437	-0.5475	-0.5461	-0.5447	-0.5447
-0.5	-0.3857	-0.535	-0.5359	-0.5344	-0.5335	-0.5335
-0.4	-0.3654	-0.5266	-0.5251	-0.5237	-0.5233	-0.5233
-0.3	-0.3465	-0.5184	-0.5153	-0.514	-0.514	-0.5141
-0.2	-0.3288	-0.5105	-0.5064	-0.5053	-0.5058	-0.5058
-0.1	-0.3125	-0.5028	-0.4984	-0.4976	-0.4985	-0.4986
0	-0.2976	-0.4954	-0.4913	-0.491	-0.4923	-0.4924
0.1	-0.2839	-0.4882	-0.4851	-0.4854	-0.487	-0.4871
0.2	-0.2716	-0.4812	-0.4798	-0.4807	-0.4827	-0.4829
0.3	-0.2605	-0.4745	-0.4754	-0.4771	-0.4795	-0.4796
0.4	-0.2508	-0.468	-0.4719	-0.4745	-0.4772	-0.4774
0.5	-0.2424	-0.4618	-0.4694	-0.4729	-0.4759	-0.4761
0.6	-0.2354	-0.4558	-0.4677	-0.4724	-0.4757	-0.4758
0.7	-0.2296	-0.45	-0.467	-0.4728	-0.4764	-0.4765
0.8	-0.2252	-0.4445	-0.4671	-0.4743	-0.4781	-0.4782
0.9	-0.2221	-0.4392	-0.4682	-0.4767	-0.4808	-0.4809
1	-0.2203	-0.4342	-0.4702	-0.4802	-0.4845	-0.4846
1.1	-0.2199	-0.4294	-0.4731	-0.4847	-0.4892	-0.4893
1.2	-0.2207	-0.4248	-0.4769	-0.4902	-0.495	-0.495
1.3	-0.2229	-0.4205	-0.4816	-0.4967	-0.5017	-0.5016
1.4	-0.2264	-0.4164	-0.4872	-0.5042	-0.5094	-0.5093
1.5	-0.2312	-0.4126	-0.4938	-0.5128	-0.5181	-0.5179
1.6	-0.2374	-0.409	-0.5012	-0.5223	-0.5277	-0.5275
1.7	-0.2448	-0.4057	-0.5095	-0.5329	-0.5384	-0.5382

Table B- 23. Minimum Bending Moment Mx*6/(p*b^2) Calculation from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	-0.3039	-0.3397	-0.3412	-0.3397	-0.3397	-0.3398
a2=	0.07106	0.00316	0.00141	0.00348	0.0033	0.00325
a3=	-0.0247	0.00214	0.00119	-0.0017	-0.0016	-0.0015

Calculated from polynomial: G(x)=a1+a2(x)+a3(x^2)

Minimum Mx*6/(p*b^2) = a1 + a2 (Nx/Nxcr) + a3 (Nx/Nxcr)^2

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	-0.4962	-0.3389	-0.3401	-0.3505	-0.3499	-0.3497
-1.6	-0.4809	-0.3393	-0.3404	-0.3495	-0.3491	-0.3489
-1.5	-0.4661	-0.3397	-0.3406	-0.3487	-0.3482	-0.3481
-1.4	-0.4519	-0.34	-0.3408	-0.3478	-0.3475	-0.3473
-1.3	-0.4381	-0.3402	-0.341	-0.347	-0.3467	-0.3466
-1.2	-0.4248	-0.3404	-0.3411	-0.3463	-0.346	-0.3458
-1.1	-0.412	-0.3406	-0.3413	-0.3455	-0.3453	-0.3452
-1	-0.3997	-0.3408	-0.3414	-0.3448	-0.3446	-0.3445
-0.9	-0.3879	-0.3408	-0.3415	-0.3442	-0.344	-0.3439
-0.8	-0.3766	-0.3409	-0.3415	-0.3435	-0.3434	-0.3433
-0.7	-0.3658	-0.3409	-0.3416	-0.3429	-0.3428	-0.3428
-0.6	-0.3555	-0.3409	-0.3416	-0.3424	-0.3423	-0.3423
-0.5	-0.3456	-0.3408	-0.3416	-0.3418	-0.3418	-0.3418
-0.4	-0.3363	-0.3407	-0.3415	-0.3413	-0.3413	-0.3413
-0.3	-0.3275	-0.3405	-0.3415	-0.3409	-0.3409	-0.3409
-0.2	-0.3191	-0.3403	-0.3414	-0.3404	-0.3404	-0.3405
-0.1	-0.3113	-0.34	-0.3413	-0.34	-0.3401	-0.3401
0	-0.3039	-0.3397	-0.3412	-0.3397	-0.3397	-0.3398
0.1	-0.2971	-0.3394	-0.341	-0.3393	-0.3394	-0.3395
0.2	-0.2907	-0.339	-0.3408	-0.3391	-0.3391	-0.3392
0.3	-0.2848	-0.3386	-0.3406	-0.3388	-0.3389	-0.3389
0.4	-0.2795	-0.3381	-0.3404	-0.3386	-0.3387	-0.3387
0.5	-0.2746	-0.3376	-0.3402	-0.3384	-0.3385	-0.3385
0.6	-0.2702	-0.3371	-0.3399	-0.3382	-0.3383	-0.3384
0.7	-0.2663	-0.3365	-0.3396	-0.3381	-0.3382	-0.3382
0.8	-0.2629	-0.3358	-0.3393	-0.338	-0.3381	-0.3381
0.9	-0.26	-0.3352	-0.3389	-0.3379	-0.338	-0.3381
1	-0.2576	-0.3344	-0.3386	-0.3379	-0.338	-0.338
1.1	-0.2557	-0.3337	-0.3382	-0.3379	-0.338	-0.338
1.2	-0.2543	-0.3329	-0.3378	-0.3379	-0.338	-0.338
1.3	-0.2533	-0.332	-0.3373	-0.338	-0.3381	-0.3381
1.4	-0.2529	-0.3311	-0.3369	-0.3381	-0.3382	-0.3382
1.5	-0.253	-0.3302	-0.3364	-0.3382	-0.3383	-0.3383
1.6	-0.2535	-0.3292	-0.3359	-0.3384	-0.3385	-0.3385
1.7	-0.2546	-0.3282	-0.3353	-0.3386	-0.3387	-0.3386

Table B- 24. Maximum Bending Moment My*6/(p*b^2) Calculation from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	0.13111	0.24549	0.24396	0.24368	0.24453	0.2446
a2=	-0.0903	-0.0447	-0.0408	-0.0378	-0.0353	-0.0352
a3=	0.04259	0.00815	0.02822	0.03166	0.03108	0.03095

Calculated from polynomial G(x)=a1+a2(x)+a3(x^2)

Maximum My*6/(p*b^2) = a1 + a2 (Nx/Nxcr) + a3 (Nx/Nxcr)^2

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.40776	0.345	0.39479	0.39944	0.39441	0.39395
-1.6	0.38467	0.33784	0.3814	0.38521	0.38062	0.38022
-1.5	0.36243	0.33085	0.36858	0.37162	0.36746	0.3671
-1.4	0.34105	0.32402	0.35632	0.35865	0.35491	0.3546
-1.3	0.32052	0.31735	0.34463	0.34633	0.34298	0.34272
-1.2	0.30084	0.31084	0.3335	0.33463	0.33168	0.33146
-1.1	0.28201	0.3045	0.32293	0.32357	0.321	0.32081
-1	0.26403	0.29832	0.31293	0.31314	0.31094	0.31079
-0.9	0.2469	0.2923	0.30349	0.30334	0.3015	0.30139
-0.8	0.23063	0.28645	0.29462	0.29418	0.29269	0.2926
-0.7	0.21521	0.28076	0.28631	0.28565	0.28449	0.28443
-0.6	0.20064	0.27523	0.27857	0.27776	0.27692	0.27689
-0.5	0.18692	0.26987	0.27139	0.2705	0.26997	0.26996
-0.4	0.17406	0.26467	0.26478	0.26387	0.26363	0.26365
-0.3	0.16204	0.25963	0.25872	0.25787	0.25793	0.25796
-0.2	0.15088	0.25475	0.25324	0.25251	0.25284	0.25289
-0.1	0.14057	0.25004	0.24832	0.24778	0.24837	0.24843
0	0.13111	0.24549	0.24396	0.24368	0.24453	0.2446
0.1	0.1225	0.2411	0.24017	0.24022	0.24131	0.24139
0.2	0.11475	0.23688	0.23694	0.23739	0.23871	0.23879
0.3	0.10784	0.23282	0.23427	0.23519	0.23673	0.23681
0.4	0.10179	0.22892	0.23218	0.23363	0.23537	0.23546
0.5	0.09659	0.22519	0.23064	0.2327	0.23464	0.23472
0.6	0.09224	0.22162	0.22967	0.2324	0.23452	0.2346
0.7	0.08875	0.21821	0.22926	0.23273	0.23503	0.2351
0.8	0.0861	0.21496	0.22942	0.2337	0.23616	0.23622
0.9	0.08431	0.21188	0.23014	0.2353	0.23791	0.23795
1	0.08337	0.20896	0.23143	0.23754	0.24028	0.24031
1.1	0.08328	0.2062	0.23328	0.24041	0.24327	0.24329
1.2	0.08404	0.20361	0.2357	0.24391	0.24689	0.24688
1.3	0.08566	0.20118	0.23868	0.24805	0.25113	0.25109
1.4	0.08812	0.19891	0.24222	0.25281	0.25598	0.25593
1.5	0.09144	0.19681	0.24633	0.25822	0.26147	0.26138
1.6	0.09561	0.19487	0.251	0.26425	0.26757	0.26745
1.7	0.10063	0.19309	0.25624	0.27092	0.27429	0.27414

Table B- 25. Maximum Bending Moment Mx*6/(p*b^2)
Calculation from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	0.12948	0.10469	0.10148	0.0989	0.09986	0.09989
a2=	-0.1008	-0.0396	-0.0501	-0.0537	-0.0523	-0.0522
a3=	0.05056	0.01718	0.02683	0.03143	0.02962	0.02951

Calculated from polynomial: G(x)=a1+a2(x)+a3(x^2)

Maximum Mx*6/(p*b^2) = a1 + a2 (Nx/Nxcr) + a3 (Nx/Nxcr)^2

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.44696	0.22169	0.26426	0.28101	0.27432	0.27383
-1.6	0.42019	0.21206	0.25039	0.26526	0.25932	0.25888
-1.5	0.39444	0.20278	0.23706	0.25015	0.24491	0.24451
-1.4	0.3697	0.19383	0.22426	0.23567	0.23109	0.23074
-1.3	0.34597	0.18523	0.212	0.22181	0.21787	0.21756
-1.2	0.32325	0.17697	0.20028	0.20859	0.20524	0.20496
-1.1	0.30154	0.16906	0.1891	0.19599	0.1932	0.19296
-1	0.28084	0.16149	0.17845	0.18402	0.18175	0.18155
-0.9	0.26115	0.15426	0.16834	0.17268	0.1709	0.17073
-0.8	0.24248	0.14738	0.15876	0.16197	0.16063	0.1605
-0.7	0.22481	0.14084	0.14972	0.15188	0.15096	0.15085
-0.6	0.20816	0.13465	0.14122	0.14243	0.14189	0.1418
-0.5	0.19252	0.1288	0.13326	0.1336	0.1334	0.13334
-0.4	0.17789	0.12329	0.12583	0.1254	0.12551	0.12547
-0.3	0.16427	0.11812	0.11894	0.11784	0.11821	0.11819
-0.2	0.15166	0.1133	0.11258	0.1109	0.1115	0.1115
-0.1	0.14007	0.10882	0.10676	0.10458	0.10538	0.1054
0	0.12948	0.10469	0.10148	0.0989	0.09986	0.09989
0.1	0.11991	0.1009	0.09673	0.09385	0.09493	0.09497
0.2	0.11134	0.09745	0.09253	0.08942	0.09059	0.09064
0.3	0.10379	0.09435	0.08885	0.08562	0.08684	0.0869
0.4	0.09725	0.09159	0.08572	0.08245	0.08369	0.08375
0.5	0.09172	0.08918	0.08312	0.07991	0.08113	0.08119
0.6	0.0872	0.0871	0.08105	0.078	0.07916	0.07922
0.7	0.08369	0.08537	0.07953	0.07672	0.07778	0.07784
0.8	0.0812	0.08399	0.07854	0.07606	0.077	0.07706
0.9	0.07971	0.08295	0.07809	0.07604	0.07681	0.07686
1	0.07924	0.08225	0.07817	0.07664	0.07721	0.07725
1.1	0.07978	0.0819	0.07879	0.07787	0.0782	0.07823
1.2	0.08133	0.08189	0.07995	0.07973	0.07979	0.0798
1.3	0.08389	0.08222	0.08164	0.08222	0.08197	0.08197
1.4	0.08746	0.08289	0.08387	0.08534	0.08474	0.08472
1.5	0.09204	0.08392	0.08664	0.08908	0.0881	0.08806
1.6	0.09763	0.08528	0.08994	0.09346	0.09206	0.092
1.7	0.10424	0.08699	0.09378	0.09846	0.0966	0.09652

Table B- 26. Center Bending Moment My*6/(p*b^2) Calculation from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	0.13111	0.24945	0.25888	0.24148	0.252	0.25015
a2=	-0.0903	-0.0377	0.01448	-0.0137	0.00265	0.00019
a3=	0.04259	-0.0001	-0.0249	0.01486	-0.0035	-0.0003

Calculated from polynomial: $G(x)=a1+a2(x)+a3(x^2)$

Center $My*6/(p*b^2) = a1 + a2\,(Nx/Nxcr) + a3\,(Nx/Nxcr)^2$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.40776	0.31308	0.1623	0.30765	0.23732	0.24908
-1.6	0.38467	0.30936	0.17197	0.30138	0.23875	0.24918
-1.5	0.36243	0.30564	0.18114	0.29541	0.24011	0.24928
-1.4	0.34105	0.30191	0.1898	0.28973	0.24139	0.24937
-1.3	0.32052	0.29818	0.19798	0.28435	0.24261	0.24946
-1.2	0.30084	0.29445	0.20565	0.27927	0.24375	0.24955
-1.1	0.28201	0.29072	0.21282	0.27449	0.24483	0.24963
-1	0.26403	0.28698	0.2195	0.27	0.24583	0.2497
-0.9	0.2469	0.28324	0.22568	0.26581	0.24676	0.24977
-0.8	0.23063	0.2795	0.23136	0.26192	0.24763	0.24983
-0.7	0.21521	0.27575	0.23654	0.25832	0.24842	0.24989
-0.6	0.20064	0.272	0.24123	0.25503	0.24914	0.24994
-0.5	0.18692	0.26825	0.24542	0.25203	0.2498	0.24999
-0.4	0.17406	0.2645	0.2491	0.24932	0.25038	0.25003
-0.3	0.16204	0.26074	0.2523	0.24692	0.25089	0.25007
-0.2	0.15088	0.25698	0.25499	0.24481	0.25133	0.2501
-0.1	0.14057	0.25322	0.25718	0.24299	0.2517	0.25013
0	0.13111	0.24945	0.25888	0.24148	0.252	0.25015
0.1	0.1225	0.24568	0.26008	0.24026	0.25223	0.25017
0.2	0.11475	0.24191	0.26078	0.23934	0.25239	0.25018
0.3	0.10784	0.23814	0.26098	0.23872	0.25248	0.25018
0.4	0.10179	0.23436	0.26069	0.23839	0.2525	0.25018
0.5	0.09659	0.23058	0.2599	0.23837	0.25245	0.25018
0.6	0.09224	0.2268	0.2586	0.23863	0.25232	0.25017
0.7	0.08875	0.22301	0.25682	0.2392	0.25213	0.25016
0.8	0.0861	0.21922	0.25453	0.24006	0.25187	0.25014
0.9	0.08431	0.21543	0.25174	0.24122	0.25153	0.25011
1	0.08337	0.21164	0.24846	0.24268	0.25113	0.25008
1.1	0.08328	0.20784	0.24468	0.24443	0.25066	0.25004
1.2	0.08404	0.20404	0.2404	0.24649	0.25011	0.25
1.3	0.08566	0.20024	0.23562	0.24884	0.2495	0.24996
1.4	0.08812	0.19644	0.23035	0.25148	0.24881	0.24991
1.5	0.09144	0.19263	0.22458	0.25443	0.24806	0.24985
1.6	0.09561	0.18882	0.2183	0.25767	0.24723	0.24979
1.7	0.10063	0.18501	0.21154	0.2612	0.24633	0.24972

Table B- 27. Center Bending Moment Mx*6/(p*b^2) Calculation from Polynomial Fit

	a/b=1	a/b=2	a/b=3	a/b=4	a/b=8	a/b=16
a1=	0.12948	0.09873	0.08304	0.06465	0.07746	0.07517
a2=	-0.1008	-2E-05	0.0216	-0.0164	0.00328	0.00021
a3=	0.05056	-0.0111	-0.0213	0.02047	-0.0044	-0.0003

Calculated from polynomial: $G(x)=a1+a2(x)+a3(x^2)$

Center Mx*6/(p*b^2) = a1 + a2 (Nx/Nxcr) + a3 (Nx/Nxcr)^2

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	0.44696	0.06669	-0.0152	0.15174	0.05928	0.07397
-1.6	0.42019	0.07035	-0.006	0.14334	0.06105	0.07409
-1.5	0.39444	0.07379	0.00274	0.13535	0.06273	0.0742
-1.4	0.3697	0.077	0.01107	0.12777	0.06432	0.07431
-1.3	0.34597	0.08	0.01898	0.1206	0.06583	0.07441
-1.2	0.32325	0.08277	0.02646	0.11384	0.06725	0.0745
-1.1	0.30154	0.08532	0.03352	0.10749	0.06858	0.07459
-1	0.28084	0.08765	0.04015	0.10155	0.06982	0.07467
-0.9	0.26115	0.08976	0.04636	0.09602	0.07098	0.07475
-0.8	0.24248	0.09164	0.05213	0.09089	0.07205	0.07482
-0.7	0.22481	0.09331	0.05749	0.08618	0.07303	0.07488
-0.6	0.20816	0.09475	0.06242	0.08188	0.07392	0.07494
-0.5	0.19252	0.09597	0.06692	0.07798	0.07473	0.07499
-0.4	0.17789	0.09696	0.07099	0.0745	0.07545	0.07504
-0.3	0.16427	0.09774	0.07464	0.07142	0.07608	0.07508
-0.2	0.15166	0.09829	0.07787	0.06875	0.07663	0.07512
-0.1	0.14007	0.09862	0.08067	0.0665	0.07709	0.07515
0	0.12948	0.09873	0.08304	0.06465	0.07746	0.07517
0.1	0.11991	0.09862	0.08499	0.06321	0.07774	0.07519
0.2	0.11134	0.09828	0.08651	0.06218	0.07794	0.0752
0.3	0.10379	0.09773	0.0876	0.06156	0.07805	0.07521
0.4	0.09725	0.09695	0.08827	0.06135	0.07807	0.07521
0.5	0.09172	0.09595	0.08852	0.06155	0.07801	0.0752
0.6	0.0872	0.09472	0.08834	0.06216	0.07786	0.07519
0.7	0.08369	0.09328	0.08773	0.06318	0.07762	0.07517
0.8	0.0812	0.09161	0.08669	0.06461	0.07729	0.07515
0.9	0.07971	0.08972	0.08524	0.06644	0.07688	0.07512
1	0.07924	0.08761	0.08335	0.06869	0.07638	0.07509
1.1	0.07978	0.08528	0.08104	0.07135	0.07579	0.07505
1.2	0.08133	0.08272	0.0783	0.07441	0.07512	0.075
1.3	0.08389	0.07995	0.07514	0.07789	0.07436	0.07495
1.4	0.08746	0.07695	0.07155	0.08177	0.07351	0.0749
1.5	0.09204	0.07373	0.06754	0.08606	0.07257	0.07483
1.6	0.09763	0.07028	0.0631	0.09077	0.07155	0.07476
1.7	0.10424	0.06662	0.05823	0.09588	0.07044	0.07469

Table B- 28. Percent Error between Actual and Calculated Minimum Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	10.9708	3.00172	13.8636	16.6601	14.6391	14.4471
-1.6	5.85743	0.85769	5.56079	4.5319	4.5704	4.55157
-1.5	1.79383	-0.2171	0.54161	-1.1665	-0.5389	-0.4345
-1.4	-1.531	-0.9006	-2.8089	-4.193	-3.3123	-3.2158
-1.3	-4.0762	-1.1534	-4.8847	-5.8711	-5.0464	-4.9594
-1.2	-5.9081	-1.2861	-6.0786	-6.8009	-6.0427	-5.966
-1.1	-6.997	-1.1177	-6.6044	-7.0491	-6.366	-6.3001
-1	-7.6008	-0.9861	-6.7575	-6.922	-6.3191	-6.2642
-0.9	-7.8506	-0.7149	-6.5032	-6.391	-5.8727	-5.8286
-0.8	-7.4209	-0.4791	-6.0118	-5.8279	-5.3958	-5.3621
-0.7	-6.7409	-0.2803	-5.2742	-5.0362	-4.692	-4.6685
-0.6	-5.7822	-0.12	-4.2862	-4.0131	-3.7579	-3.7438
-0.5	-4.5196	0	-3.4469	-2.9591	-2.7924	-2.7871
-0.4	-3.2242	0.07787	-2.3619	-1.8791	-1.8002	-1.8029
-0.3	-1.6041	0.11168	-1.2351	-0.779	-0.7862	-0.7961
-0.2	0.04669	0.29445	-0.0723	0.1385	0.0468	0.03059
-0.1	1.40596	0.23698	1.12036	1.26224	1.08863	1.0671
0	3.07492	0.32998	2.33598	2.19323	1.94024	1.91434
0.1	4.73252	0.37641	3.37542	3.12289	2.79375	2.76451
0.2	6.03654	0.37424	4.04608	3.85376	3.45136	3.41976
0.3	7.28402	0.53031	4.73094	4.57586	4.10406	4.07116
0.4	8.12103	0.42774	5.04539	5.09544	4.55744	4.52424
0.5	8.85432	0.48491	5.17879	5.22295	4.8115	4.779
0.6	9.11753	0.49092	5.32097	5.33772	4.86624	4.83544
0.7	9.23166	0.44372	5.08687	5.24956	4.72166	4.69356
0.8	8.81684	0.56412	4.66539	4.76763	4.37776	4.35336
0.9	7.83357	0.40735	4.05422	4.08002	3.83454	3.81484
1	6.63559	0.41972	3.25103	3.38028	3.092	3.078
1.1	4.81424	0.14474	2.25343	2.28018	2.15014	2.14284
1.2	2.32814	0.04085	0.85331	0.97107	1.00896	1.00936
1.3	-0.4135	-0.123	-0.5442	-0.3452	-0.3315	-0.3224
1.4	-3.8613	-0.3488	-2.1439	-2.0722	-1.8714	-1.8526
1.5	-8.0549	-0.3942	-3.9484	-4.0117	-3.6105	-3.581
1.6	-13.037	-0.7472	-6.1848	-6.1648	-5.549	-5.5078
1.7	-18.853	-0.9175	-8.4125	-8.5329	-7.6867	-7.6328
Minimum My*6/(p*b^2)						
+/-1.7 max err	10.9708	3.00172	13.8636	16.6601	14.6391	14.4471
+/-1.7 min err	-18.853	-1.2861	-8.4125	-8.5329	-7.6867	-7.6328
+/-1.5 max err	9.23166	0.56412	5.32097	5.33772	4.86624	4.83544
+/-1.5 min err	-8.0549	-1.2861	-6.7575	-7.0491	-6.366	-6.3001

Table B- 29. Percent Error between Actual and Calculated Minimum Bending Moment $Mx*6/(p*b^2)$

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	5.4909	2.60994	-4.6517	1.00249	0.87108	0.65972
-1.6	2.84663	0.20365	-0.1087	0.41345	0.2656	0.32823
-1.5	0.82128	-0.7878	0.9891	0.09169	-0.0711	-0.0158
-1.4	-0.6381	-0.8782	1.21693	-0.2435	-0.1315	-0.0833
-1.3	-1.6438	-0.9559	1.16467	-0.3015	-0.2015	-0.1601
-1.2	-2.3612	-0.722	1.1193	-0.3696	-0.281	-0.246
-1.1	-2.7449	-0.4769	0.79328	-0.4479	-0.3703	-0.3413
-1	-3.018	-0.5162	0.76163	-0.2442	-0.1773	-0.1541
-0.9	-2.8932	-0.2472	0.44749	-0.3419	-0.2851	-0.2671
-0.8	-2.8958	0.03273	0.42962	-0.1572	-0.1101	-0.097
-0.7	-2.4607	0.03126	0.12751	-0.2746	-0.2366	-0.228
-0.6	-2.1452	0.04235	0.12351	-0.109	-0.0796	-0.0752
-0.5	-1.6588	0.06598	-0.1664	-0.2463	-0.2251	-0.2243
-0.4	-1.298	0.10217	-0.1565	-0.0999	-0.0863	-0.0889
-0.3	-0.7609	0.15091	-0.1396	0.0366	0.04308	0.0376
-0.2	-0.041	0.2122	-0.1157	0.16328	0.16317	0.15519
-0.1	0.5485	0.28604	-0.3791	-0.0132	-0.0194	-0.0295
0	1	0.37243	-0.3412	0.09412	0.08235	0.07059
0.1	1.63205	0.17865	-0.2962	0.19153	0.17474	0.16171
0.2	1.78824	0.29047	-0.2442	0.27906	0.25776	0.24388
0.3	2.11794	0.12112	-0.4808	0.06277	0.03743	0.02307
0.4	2.62676	0.25853	-0.4146	0.13074	0.10195	0.08755
0.5	2.63121	0.11391	-0.3414	0.18879	0.15708	0.14307
0.6	2.8082	-0.0189	-0.2612	0.23693	0.20283	0.18962
0.7	2.80993	0.15745	-0.174	0.27516	0.2392	0.2272
0.8	2.62859	0.04988	-0.0798	0.30348	0.26619	0.25581
0.9	2.62202	-0.0456	-0.2743	0.02698	-0.0112	-0.0196
1	2.05703	-0.1287	-0.1657	0.0355	-0.003	-0.0089
1.1	1.66338	-0.1996	-0.05	0.03408	-0.0041	-0.0072
1.2	0.68172	-0.258	0.07266	0.02272	-0.0147	-0.0144
1.3	-0.13	-0.0016	0.2024	0.00142	-0.0346	-0.0307
1.4	-1.1589	-0.0337	0.04344	-0.0298	-0.064	-0.056
1.5	-2.413	-0.053	0.18769	-0.071	-0.1028	-0.0902
1.6	-3.9005	-0.0595	0.33899	-0.1221	-0.151	-0.1335
1.7	-5.1937	-0.0529	0.49736	-0.4805	-0.2086	-0.1857
Minimum $Mx*6/(p*b^2)$						
+/-1.7 max err	5.4909	2.60994	1.21693	1.00249	0.87108	0.65972
+/-1.7 min err	-5.1937	-0.9559	-4.6517	-0.4805	-0.3703	-0.3413
+/-1.5 max err	2.80993	0.37243	1.21693	0.30348	0.26619	0.25581
+/-1.5 min err	-3.018	-0.9559	-0.4808	-0.4479	-0.3703	-0.3413

Table B- 30. Percent Error between Actual and Calculated Maximum Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	12.6861	4.43227	15.643	18.9782	16.7907	16.5353
-1.6	6.85995	1.50379	6.51882	5.35391	5.31771	5.41891
-1.5	2.04527	-0.2568	0.65229	-1.2575	-0.3975	-0.2999
-1.4	-1.8055	-1.255	-3.2815	-4.8695	-4.0788	-3.9877
-1.3	-5.0872	-1.7139	-5.7137	-7.2215	-6.1871	-6.1045
-1.2	-7.4413	-1.9154	-7.2337	-8.2946	-7.3402	-7.2673
-1.1	-8.883	-1.8393	-8.0037	-8.5801	-7.7181	-7.6555
-1	-9.556	-1.8157	-8.2803	-8.7292	-7.9653	-7.9132
-0.9	-10.225	-1.1431	-8.0047	-7.9518	-7.296	-7.2546
-0.8	-9.8246	-0.8627	-7.5258	-7.3658	-6.8194	-6.7883
-0.7	-8.692	-0.6306	-6.436	-6.1909	-5.7584	-5.7374
-0.6	-7.8712	-0.4496	-5.5186	-5.2112	-4.8927	-4.8811
-0.5	-6.206	-0.3225	-4.3808	-4.0365	-3.4349	-3.432
-0.4	-4.2254	0.12604	-3.0254	-2.6714	-2.5816	-2.5868
-0.3	-2.5583	0.14327	-1.4607	-1.1253	-1.1475	-1.1598
-0.2	0.07974	0.4875	-0.0944	0.1951	0.06356	0.04506
-0.1	2.38271	0.38267	1.46143	1.67595	1.43897	1.41528
0	4.29927	0.61134	2.80478	2.91633	2.57769	2.5498
0.1	7.19477	0.78045	4.31586	3.91336	3.47688	3.4458
0.2	8.93048	0.88703	5.22448	5.04544	4.51712	4.484
0.3	10.8726	0.92787	5.91373	5.92424	5.30872	5.2746
0.4	12.2479	0.89957	6.38097	6.54976	5.85168	5.8176
0.5	13.7567	0.79846	6.62348	6.922	6.146	6.113
0.6	14.5885	1.06429	6.63854	6.66763	6.19168	6.1608
0.7	14.6653	0.81477	6.42335	6.53277	5.98872	5.961
0.8	13.8964	0.93917	5.97508	6.14361	5.53712	5.5136
0.9	12.902	0.52606	4.8995	5.11911	4.83688	4.8186
1	10.9295	0.49524	3.97095	4.21774	3.888	3.876
1.1	8.07848	0.38478	2.7995	3.06105	2.69048	2.6858
1.2	4.16921	0.19118	0.96773	1.25085	1.24432	1.248
1.3	-0.7742	-0.0893	-0.7075	-0.4232	-0.4505	-0.4374
1.4	-6.8175	-0.4606	-2.6361	-2.7698	-2.3939	-2.3704
1.5	-14.303	-0.9269	-5.2692	-4.9654	-4.586	-4.551
1.6	-23.053	-1.4927	-7.7267	-7.857	-7.0267	-6.9792
1.7	-33.29	-1.625	-10.449	-11.032	-9.7161	-9.655
Maximum My*6/(p*b^2)						
+/-1.7 max err	14.6653	4.43227	15.643	18.9782	16.7907	16.5353
+/-1.7 min err	-33.29	-1.9154	-10.449	-11.032	-9.7161	-9.655
+/-1.5 max err	14.6653	1.06429	6.63854	6.922	6.19168	6.1608
+/-1.5 min err	-14.303	-1.9154	-8.2803	-8.7292	-7.9653	-7.9132

Table B- 31. Percent Error between Actual and Calculated Maximum Bending Moment Mx*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	13.8808	13.0611	17.4198	25.4627	22.9436	22.6472
-1.6	7.64976	4.90457	7.26341	6.5969	6.71971	6.87928
-1.5	2.36634	0.11084	0.39601	-3.3688	-2.0458	-1.8802
-1.4	-2.1264	-3.1015	-4.3083	-9.1059	-7.4852	-7.3207
-1.3	-5.8001	-5.2444	-7.6166	-12.596	-11.158	-10.998
-1.2	-8.4719	-5.972	-10.046	-14.608	-12.767	-12.618
-1.1	-10.453	-6.9999	-11.234	-15.288	-13.645	-13.507
-1	-11.444	-6.947	-11.531	-15.013	-13.594	-13.469
-0.9	-11.604	-6.3888	-10.749	-14.357	-13.176	-13.065
-0.8	-11.229	-6.0296	-10.252	-12.477	-11.551	-11.456
-0.7	-10.746	-5.1061	-8.4962	-10.061	-9.3933	-10.113
-0.6	-8.9851	-4.3774	-6.987	-7.9006	-7.4888	-7.427
-0.5	-7.5531	-3.036	-4.9272	-5.1988	-5.0394	-4.9941
-0.4	-5.2601	-1.8899	-3.1384	-2.7908	-2.8748	-2.8456
-0.3	-2.669	-0.9591	-0.7938	0.13924	-0.1753	-0.1618
-0.2	0.22211	0.61298	1.24456	2.72351	2.19404	2.19263
-0.1	2.73222	1.96054	2.94336	4.92427	4.19709	4.18173
0	5.48905	3.06481	5.15888	7.57009	6.6729	6.64486
0.1	8.46901	3.90495	6.98625	9.76413	8.72192	8.6826
0.2	10.9261	5.38524	8.39089	11.4661	10.3061	10.257
0.3	13.508	5.6498	9.977	13.2506	12.0113	11.9545
0.4	15.4351	6.25302	10.9898	14.3792	13.0933	13.0305
0.5	16.6182	6.62304	11.6711	14.9867	13.7832	13.7168
0.6	17.7343	6.84193	11.897	15.2165	13.9552	13.8874
0.7	17.9467	6.69486	11.7329	14.7581	13.5724	13.5057
0.8	17.5651	6.26205	10.9533	13.7605	12.6975	12.6345
0.9	16.0909	5.6339	9.72682	12.0956	11.2032	11.0439
1	13.5878	4.58237	7.92697	9.62264	8.95047	9.0106
1.1	10.0591	3.19645	5.52722	6.62914	6.11861	6.08391
1.2	5.21399	1.46185	2.50341	2.64811	2.57778	2.55873
1.3	-0.9463	-0.6343	-1.1657	-2.0096	-1.6958	-1.6959
1.4	-8.643	-3.2314	-5.4979	-7.4771	-6.7219	-6.6997
1.5	-17.849	-6.0872	-10.648	-13.771	-12.516	-12.468
1.6	-28.804	-9.4721	-16.353	-21.058	-19.242	-19.165
1.7	-41.436	-13.263	-22.75	-29.043	-26.609	-26.499
Maximum Mx*6/(p*b^2)						
+/-1.7 max err	17.9467	13.0611	17.4198	25.4627	22.9436	22.6472
+/-1.7 min err	-41.436	-13.263	-22.75	-29.043	-26.609	-26.499
+/-1.5 max err	17.9467	6.84193	11.897	15.2165	13.9552	13.8874
+/-1.5 min err	-17.849	-6.9999	-11.531	-15.288	-13.645	-13.507

Table B- 32. Percent Error between Actual and Calculated Center Bending Moment My*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	12.6861	-8.3337	-102.88	27.2701	-18.661	-1.2502
-1.6	6.85995	-2.1002	-13.886	2.4668	2.55151	0.32784
-1.5	2.04527	0.76623	2.61559	-7.42	3.57229	0.288
-1.4	-1.8055	1.9761	8.30725	-11.008	3.44368	0.25024
-1.3	-5.0872	2.23462	10.4186	-11.949	2.95752	0.21456
-1.2	-7.4413	2.49921	10.5878	-11.263	2.49952	0.18096
-1.1	-8.883	2.44376	10.2013	-10.236	2.06968	0.14944
-1	-9.556	2.05461	9.29752	-8.4337	1.668	0.12
-0.9	-10.225	1.99322	7.88612	-6.7512	1.29448	0.09264
-0.8	-9.8246	1.58577	6.70968	-5.1881	0.94912	0.06736
-0.7	-8.692	1.16473	5.3828	-3.7443	0.63192	0.04416
-0.6	-7.8712	0.72934	3.89323	-2.4199	0.34288	0.02304
-0.5	-6.206	0.27881	2.6131	-1.2149	0.082	0.004
-0.4	-4.2254	0.19034	1.14921	0.27136	-0.1507	-0.013
-0.3	-2.5583	-0.284	-0.1171	1.23384	-0.3553	-0.0278
-0.2	0.07974	-0.3822	-1.1857	2.07744	-0.5317	-0.0406
-0.1	2.38271	-0.8827	-2.0567	2.80216	-0.6799	-0.0514
0	4.29927	-0.9919	-3.1394	3.408	-0.8	-0.06
0.1	7.19477	-1.1035	-3.6171	3.89496	-0.8919	-0.0666
0.2	8.93048	-1.2177	-4.312	4.26304	-0.9557	-0.071
0.3	10.8726	-1.3346	-4.8124	4.51224	-0.9913	-0.0734
0.4	12.2479	-1.4544	-5.1161	4.64256	-0.9987	-0.0738
0.5	13.7567	-1.5771	-5.2206	4.654	-0.978	-0.072
0.6	14.5885	-1.2489	-5.1236	4.16321	-0.9291	-0.0682
0.7	14.6653	-1.3693	-4.8224	3.93598	-0.8521	-0.0622
0.8	13.8964	-1.0251	-4.3148	3.5894	-0.7469	-0.0542
0.9	12.902	-1.1425	-4.026	2.73282	-0.6135	-0.0442
1	10.9295	-0.781	-3.0954	2.14516	-0.452	-0.032
1.1	8.07848	-0.4075	-1.9496	1.43766	-0.2623	-0.0178
1.2	4.16921	-0.0218	-1.0084	0.20794	-0.0445	-0.0014
1.3	-0.7742	0.37692	0.58101	-0.7431	0.20152	0.01696
1.4	-6.8175	0.78909	2.39492	-2.2283	0.47568	0.03744
1.5	-14.303	1.21538	4.02778	-3.4248	0.778	0.06
1.6	-23.053	1.65646	6.3073	-5.1696	1.10848	0.08464
1.7	-33.29	2.62821	8.82112	-7.0506	1.46712	0.11136
Center My*6/(p*b^2)						
+/-1.7 max err	14.6653	2.62821	10.5878	27.2701	3.57229	0.32784
+/-1.7 min err	-33.29	-8.3337	-102.88	-11.949	-18.661	-1.2502
+/-1.5 max err	14.6653	2.49921	10.5878	4.654	3.57229	0.288
+/-1.5 min err	-14.303	-1.5771	-5.2206	-11.949	-0.9987	-0.0738

Table B- 33. Percent Error between Actual and Calculated Center Bending Moment Mx*6/(p*b^2)

Nx/Nxcr	a/b					
	1	2	3	4	8	16
-1.7	13.8808	-143.38	83.9068	47.3127	-329.59	-4.9289
-1.6	7.64976	-20.662	72.8721	5.69658	10.4833	1.2112
-1.5	2.36634	1.62	73.1618	-20.85	14.8847	1.06333
-1.4	-2.1264	9.40941	61.2881	-35.21	14.0075	0.9232
-1.3	-5.8001	12.3801	53.136	-40.727	12.2299	0.7908
-1.2	-8.4719	13.148	45.8847	-40.895	10.3392	0.66613
-1.1	-10.453	12.7597	39.0562	-37.987	8.5648	0.5492
-1	-11.444	11.7321	32.7471	-33.093	6.90667	0.44
-0.9	-11.604	10.243	26.7692	-27.514	5.3648	0.33853
-0.8	-11.229	8.358	21.2471	-21.68	3.9392	0.2448
-0.7	-10.746	6.695	16.0761	-15.835	2.62987	0.1588
-0.6	-8.9851	5.254	11.3415	-10.198	1.4368	0.08053
-0.5	-7.5531	3.45573	6.92976	-4.9563	0.36	0.01
-0.4	-5.2601	1.76089	2.88153	-0.1306	-0.6005	-0.0528
-0.3	-2.669	0.06442	-0.5982	4.13248	-1.4448	-0.1079
-0.2	0.22211	-1.4345	-3.8245	7.83539	-2.1728	-0.1552
-0.1	2.73222	-2.8373	-6.7025	10.9803	-2.7845	-0.1948
0	5.48905	-4.1456	-8.9764	13.5695	-3.28	-0.2267
0.1	8.46901	-5.1354	-10.949	15.6052	-3.6592	-0.2508
0.2	10.9261	-6.0216	-12.495	17.2	-3.9221	-0.2672
0.3	13.508	-6.6867	-13.624	18.1339	-4.0688	-0.2759
0.4	15.4351	-7.1227	-14.196	18.4133	-4.0992	-0.2768
0.5	16.6182	-7.4412	-14.512	18.257	-4.0133	-0.27
0.6	17.7343	-7.3946	-14.129	17.5581	-3.8112	-0.2555
0.7	17.9467	-7.0918	-13.344	16.2078	-3.4928	-0.2332
0.8	17.5651	-6.5233	-12.153	14.3146	-3.0581	-0.2032
0.9	16.0909	-5.6784	-10.408	11.9951	-2.5072	-0.1655
1	13.5878	-4.4219	-8.1064	9.01987	-1.84	-0.12
1.1	10.0591	-2.9915	-5.3824	5.50238	-1.0565	-0.0668
1.2	5.21399	-1.1271	-1.9563	1.31194	-0.1568	-0.0059
1.3	-0.9463	0.93556	1.90614	-3.2962	0.8592	0.0628
1.4	-8.643	3.45546	6.22333	-8.4472	1.99147	0.1392
1.5	-17.849	6.32147	11.2516	-14.293	3.24	0.22333
1.6	-28.804	9.54698	16.7578	-20.698	4.6048	0.3152
1.7	-41.436	13.2591	22.9737	-27.496	6.08587	0.4148
Center Mx*6/(p*b^2)						
+/-1.7 max err	17.9467	13.2591	83.9068	47.3127	14.8847	1.2112
+/-1.7 min err	-41.436	-143.38	-14.512	-40.895	-329.59	-4.9289
+/-1.5 max err	17.9467	13.148	73.1618	18.4133	14.8847	1.06333
+/-1.5 min err	-17.849	-7.4412	-14.512	-40.895	-4.0992	-0.2768

Appendix C
Panting Fatigue Life Results

Page

Table C- 1. Fatigue Life in Passes - Loosely Clamped, High Sea State, 5 Knots

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	10	1	1167.9	285871232.0	610500928.0	283750368.0	24477502.1	52273781.1	24295904.0
1	20	1	1167.9	8713672.0	10396107.0	8255236.0	746004.4	890062.2	706751.1
1	30	1	1167.9	783669.9	1053267.9	694096.1	67001.4	90085.6	59331.7
1	40	1	1167.9	135332.6	227643.4	110090.3	11487.8	19391.9	9326.4
1	50	1	1167.9	32888.6	76435.2	24319.4	2716.1	6444.7	1982.3
1	60	1	1167.9	9619.4	33858.1	6470.2	723.7	2799.1	454.0
1	70	1	1167.9	3104.8	17567.3	1930.8	165.8	1404.2	65.3
1	80	1	1167.9	1054.9	9537.6	618.6	-9.7	716.7	-47.0
1	90	1	1167.9	369.2	4828.3	208.9	-68.4	313.4	-82.1
1	10	2	1167.9	1168.2	1186.5	1132.0	0.0	1.6	-3.1
1	20	2	1167.9	1167.0	1241.1	1034.1	-0.1	6.3	-11.5
1	30	2	1167.9	1164.1	1343.6	899.6	-0.3	15.0	-23.0
1	40	2	1167.9	1158.9	1506.0	755.7	-0.8	29.0	-35.3
1	50	2	1167.9	1147.2	1741.4	624.6	-1.8	49.1	-46.5
1	60	2	1167.9	1118.2	2028.6	515.2	-4.3	73.7	-55.9
1	70	2	1167.9	1050.3	2225.6	428.8	-10.1	90.6	-63.3
1	80	2	1167.9	916.5	1987.1	364.7	-21.5	70.1	-68.8
1	90	2	1167.9	709.3	1228.9	319.1	-39.3	5.2	-72.7
1	10	3	1167.9	683791488.0	7216100860.0	681565056.0	58549254.0	617875452.6	58358616.7
1	20	3	1167.9	83588784.0	127661840.0	78351480.0	7157153.9	10930890.5	6708712.0
1	30	3	1167.9	8653162.0	13768780.0	7344493.5	740823.3	1178845.9	628769.1
1	40	3	1167.9	1477469.0	3250715.5	1120957.1	126407.7	278241.1	95881.5
1	50	3	1167.9	336924.1	1201047.9	228730.4	28749.0	102739.2	19484.9
1	60	3	1167.9	88857.0	546648.8	55128.7	7508.3	46706.6	4620.4
1	70	3	1167.9	25210.0	262806.5	14755.4	2058.6	22402.7	1163.4
1	80	3	1167.9	7489.5	106304.9	4263.0	541.3	9002.3	265.0
1	90	3	1167.9	2319.6	31658.1	1311.4	98.6	2610.7	12.3
1	10	4	1167.9	683791488.0	7216100860.0	681565056.0	58549254.0	617875452.6	58358616.7
1	20	4	1167.9	83588784.0	127661840.0	78351480.0	7157153.9	10930890.5	6708712.0
1	30	4	1167.9	8653162.0	13768780.0	7344493.5	740823.3	1178845.9	628769.1
1	40	4	1167.9	1477469.0	3250715.5	1120957.1	126407.7	278241.1	95881.5
1	50	4	1167.9	336924.1	1201047.9	228730.4	28749.0	102739.2	19484.9
1	60	4	1167.9	88857.0	546648.8	55128.7	7508.3	46706.6	4620.4
1	70	4	1167.9	25210.0	262806.5	14755.4	2058.6	22402.7	1163.4
1	80	4	1167.9	7489.5	106304.9	4263.0	541.3	9002.3	265.0
1	90	4	1167.9	2319.6	31658.1	1311.4	98.6	2610.7	12.3
1	10	5	1167.9	1168.3	1180.3	1152.7	0.0	1.1	-1.3
1	20	5	1167.9	1173.3	1204.7	1112.3	0.5	3.2	-4.8
1	30	5	1167.9	1192.9	1266.1	1061.0	2.1	8.4	-9.2
1	40	5	1167.9	1249.2	1394.7	1017.1	7.0	19.4	-12.9
1	50	5	1167.9	1379.3	1659.1	999.6	18.1	42.1	-14.4
1	60	5	1167.9	1656.0	2220.3	1032.0	41.8	90.1	-11.6

[1] LOI – Location of interest.
[2] Percent change in fatigue life from "axial only ((fatigue life/axial only fatigue life – 1) x 100).

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	70	5	1167.9	2233.3	3500.7	1150.2	91.2	199.7	-1.5
1	80	5	1167.9	3366.6	6294.9	1418.6	188.3	439.0	21.5
1	90	5	1167.9	4727.7	7005.1	1980.3	304.8	499.8	69.6
1	10	6	1167.9	1168.3	1180.3	1152.7	0.0	1.1	-1.3
1	20	6	1167.9	1173.3	1204.7	1112.3	0.5	3.2	-4.8
1	30	6	1167.9	1192.9	1266.1	1061.0	2.1	8.4	-9.2
1	40	6	1167.9	1249.2	1394.7	1017.1	7.0	19.4	-12.9
1	50	6	1167.9	1379.3	1659.1	999.6	18.1	42.1	-14.4
1	60	6	1167.9	1656.0	2220.3	1032.0	41.8	90.1	-11.6
1	70	6	1167.9	2233.3	3500.7	1150.2	91.2	199.7	-1.5
1	80	6	1167.9	3366.6	6294.9	1418.6	188.3	439.0	21.5
1	90	6	1167.9	4727.7	7005.1	1980.3	304.8	499.8	69.6
2	10	1	1167.9	96800832.0	129501680.0	96425184.0	8288429.9	11088426.0	8256265.2
2	20	1	1167.9	1947693.3	2077185.4	1912416.1	166670.4	177758.1	163649.8
2	30	1	1167.9	173548.6	190323.1	166644.2	14760.0	16196.3	14168.8
2	40	1	1167.9	30898.1	35966.1	28852.2	2545.6	2979.6	2370.5
2	50	1	1167.9	8049.5	10192.5	7249.2	589.2	772.7	520.7
2	60	1	1167.9	2659.8	3756.1	2295.6	127.7	221.6	96.6
2	70	1	1167.9	1031.1	1661.9	846.8	-11.7	42.3	-27.5
2	80	1	1167.9	446.9	846.3	348.4	-61.7	-27.5	-70.2
2	90	1	1167.9	209.7	480.7	154.9	-82.0	-58.8	-86.7
2	10	2	1167.9	1168.0	1188.4	1127.5	0.0	1.8	-3.5
2	20	2	1167.9	1161.8	1244.6	1015.9	-0.5	6.6	-13.0
2	30	2	1167.9	1139.2	1336.6	858.0	-2.5	14.4	-26.5
2	40	2	1167.9	1084.6	1443.4	684.9	-7.1	23.6	-41.4
2	50	2	1167.9	983.9	1532.1	522.5	-15.7	31.2	-55.3
2	60	2	1167.9	836.0	1521.5	385.1	-28.4	30.3	-67.0
2	70	2	1167.9	659.9	1361.7	276.6	-43.5	16.6	-76.3
2	80	2	1167.9	486.4	1068.2	196.4	-58.4	-8.5	-83.2
2	90	2	1167.9	340.1	739.5	138.9	-70.9	-36.7	-88.1
2	10	3	1167.9	385833056.0	1067478780.0	384766112.0	33036690.5	91402314.4	32945333.9
2	20	3	1167.9	15212066.0	17241144.0	14894150.0	1302426.7	1476165.6	1275205.2
2	30	3	1167.9	1409298.1	1597685.9	1343194.4	120570.5	136701.2	114910.4
2	40	3	1167.9	252195.7	306683.9	232010.6	21494.1	26159.7	19765.8
2	50	3	1167.9	65589.9	88446.4	57705.4	5516.1	7473.2	4841.0
2	60	3	1167.9	21543.2	33303.6	18001.7	1744.6	2751.6	1441.4
2	70	3	1167.9	8262.0	15125.3	6525.9	607.4	1195.1	458.8
2	80	3	1167.9	3521.7	7915.9	2623.7	201.5	577.8	124.7
2	90	3	1167.9	1613.9	4613.8	1133.3	38.2	295.1	-3.0
2	10	4	1167.9	377251104.0	1014888700.0	376250560.0	32301864.6	86899311.3	32216193.4
2	20	4	1167.9	14524239.0	16299267.0	14268011.0	1243531.8	1395517.8	1221592.3
2	30	4	1167.9	1344101.6	1496558.5	1290210.6	114988.1	128042.2	110373.7
2	40	4	1167.9	240963.3	283696.5	224874.9	20532.4	24191.4	19154.8
2	50	4	1167.9	62934.6	80694.7	56622.6	5288.8	6809.4	4748.3
2	60	4	1167.9	20829.2	29935.8	17968.0	1683.5	2463.2	1438.5
2	70	4	1167.9	8089.6	13345.8	6653.0	592.7	1042.7	469.7
2	80	4	1167.9	3515.6	6873.6	2752.1	201.0	488.6	135.6
2	90	4	1167.9	1656.0	3964.4	1232.0	41.8	239.5	5.5

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
2	10	5	1167.9	1168.3	1180.0	1155.5	0.0	1.0	-1.1
2	20	5	1167.9	1169.4	1195.3	1120.5	0.1	2.4	-4.1
2	30	5	1167.9	1176.5	1234.6	1070.0	0.7	5.7	-8.4
2	40	5	1167.9	1195.2	1303.4	1013.0	2.3	11.6	-13.3
2	50	5	1167.9	1236.2	1423.4	958.8	5.9	21.9	-17.9
2	60	5	1167.9	1315.2	1626.4	915.8	12.6	39.3	-21.6
2	70	5	1167.9	1455.4	1983.3	891.4	24.6	69.8	-23.7
2	80	5	1167.9	1690.6	2611.4	892.9	44.8	123.6	-23.5
2	90	5	1167.9	2055.1	3693.1	925.6	76.0	216.2	-20.7
2	10	6	1167.9	1168.2	1179.8	1156.0	0.0	1.0	-1.0
2	20	6	1167.9	1167.8	1191.6	1121.1	0.0	2.0	-4.0
2	30	6	1167.9	1165.5	1219.1	1065.8	-0.2	4.4	-8.7
2	40	6	1167.9	1159.6	1256.4	994.0	-0.7	7.6	-14.9
2	50	6	1167.9	1148.3	1303.4	910.5	-1.7	11.6	-22.0
2	60	6	1167.9	1129.4	1356.6	821.3	-3.3	16.2	-29.7
2	70	6	1167.9	1100.5	1410.6	732.1	-5.8	20.8	-37.3
2	80	6	1167.9	1060.1	1453.8	647.9	-9.2	24.5	-44.5
2	90	6	1167.9	1007.3	1482.4	572.2	-13.8	26.9	-51.0
3	10	1	1167.9	98703808.0	132642752.0	98467088.0	8451371.4	11357379.0	8431102.3
3	20	1	1167.9	1996701.8	2123100.5	1963276.6	170866.7	181689.6	168004.7
3	30	1	1167.9	177954.4	193645.7	171438.8	15137.3	16480.8	14579.4
3	40	1	1167.9	31675.3	36272.5	29738.7	2612.2	3005.8	2446.4
3	50	1	1167.9	8247.2	10141.4	7476.0	606.2	768.4	540.1
3	60	1	1167.9	2721.2	3660.6	2355.9	133.0	213.4	101.7
3	70	1	1167.9	1051.3	1573.8	863.9	-10.0	34.8	-26.0
3	80	1	1167.9	452.2	767.0	350.4	-61.3	-34.3	-70.0
3	90	1	1167.9	208.9	407.4	152.1	-82.1	-65.1	-87.0
3	10	2	1167.9	1167.9	1188.5	1127.3	0.0	1.8	-3.5
3	20	2	1167.9	1161.7	1244.8	1015.3	-0.5	6.6	-13.1
3	30	2	1167.9	1138.5	1336.6	856.7	-2.5	14.4	-26.6
3	40	2	1167.9	1082.6	1442.3	682.7	-7.3	23.5	-41.5
3	50	2	1167.9	979.8	1527.6	519.6	-16.1	30.8	-55.5
3	60	2	1167.9	829.4	1510.7	381.7	-29.0	29.4	-67.3
3	70	2	1167.9	651.6	1344.0	273.0	-44.2	15.1	-76.6
3	80	2	1167.9	477.8	1049.6	192.8	-59.1	-10.1	-83.5
3	90	2	1167.9	332.5	724.9	135.4	-71.5	-37.9	-88.4
3	10	3	1167.9	388564896.0	1085514880.0	387989088.0	33270603.2	92946647.7	33221299.9
3	20	3	1167.9	15470494.0	17477156.0	15172805.0	1324554.4	1496374.0	1299064.9
3	30	3	1167.9	1434125.9	1609600.6	1370441.1	122696.4	137721.4	117243.4
3	40	3	1167.9	256639.7	305633.9	237537.8	21874.7	26069.8	20239.1
3	50	3	1167.9	66721.5	86713.2	59076.5	5613.0	7324.8	4958.4
3	60	3	1167.9	21883.7	31849.8	18343.8	1773.8	2627.1	1470.7
3	70	3	1167.9	8359.0	13970.2	6606.2	615.7	1096.2	465.7
3	80	3	1167.9	3529.3	6934.7	2611.6	202.2	493.8	123.6
3	90	3	1167.9	1586.1	3719.7	1091.9	35.8	218.5	-6.5
3	10	4	1167.9	357007584.0	895375616.0	356575520.0	30568521.8	76666054.5	30531526.5
3	20	4	1167.9	13040895.0	13864278.0	12886344.0	1116521.1	1187022.9	1103287.7
3	30	4	1167.9	1203934.3	1221976.5	1170588.4	102986.4	104531.2	100131.1

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
3	40	4	1167.9	216631.0	222360.8	206975.6	18448.9	18939.5	17622.2
3	50	4	1167.9	57068.1	59517.9	53396.0	4786.4	4996.2	4472.0
3	60	4	1167.9	19179.8	20456.5	17547.0	1542.3	1651.6	1402.5
3	70	4	1167.9	7629.8	8309.6	6840.7	553.3	611.5	485.7
3	80	4	1167.9	3431.5	3851.5	3028.5	193.8	229.8	159.3
3	90	4	1167.9	1690.8	1954.6	1475.2	44.8	67.4	26.3
3	10	5	1167.9	1168.3	1180.0	1155.9	0.0	1.0	-1.0
3	20	5	1167.9	1170.0	1195.2	1122.5	0.2	2.3	-3.9
3	30	5	1167.9	1179.8	1236.3	1075.8	1.0	5.9	-7.9
3	40	5	1167.9	1205.7	1311.9	1026.1	3.2	12.3	-12.1
3	50	5	1167.9	1263.1	1450.5	983.7	8.2	24.2	-15.8
3	60	5	1167.9	1375.7	1699.1	958.9	17.8	45.5	-17.9
3	70	5	1167.9	1582.8	2165.9	961.7	35.5	85.5	-17.7
3	80	5	1167.9	1947.5	3049.6	1003.3	66.8	161.1	-14.1
3	90	5	1167.9	2525.1	4612.9	1092.9	116.2	295.0	-6.4
3	10	6	1167.9	1168.2	1179.7	1157.7	0.0	1.0	-0.9
3	20	6	1167.9	1166.9	1186.7	1127.2	-0.1	1.6	-3.5
3	30	6	1167.9	1160.0	1204.7	1075.7	-0.7	3.1	-7.9
3	40	6	1167.9	1142.6	1221.1	1003.4	-2.2	4.6	-14.1
3	50	6	1167.9	1107.6	1227.5	912.4	-5.2	5.1	-21.9
3	60	6	1167.9	1048.8	1214.1	806.8	-10.2	4.0	-30.9
3	70	6	1167.9	962.3	1162.9	694.1	-17.6	-0.4	-40.6
3	80	6	1167.9	849.4	1066.4	582.3	-27.3	-8.7	-50.1
3	90	6	1167.9	716.6	921.0	478.2	-38.6	-21.1	-59.1
4	10	1	1167.9	98962464.0	132762056.0	98603648.0	8473518.7	11367594.3	8442795.2
4	20	1	1167.9	1998992.0	2120740.5	1969897.8	171062.8	181487.5	168571.7
4	30	1	1167.9	178224.6	192804.2	172161.7	15160.4	16408.8	14641.3
4	40	1	1167.9	31736.1	35941.1	29925.2	2617.4	2977.4	2462.3
4	50	1	1167.9	8268.2	9977.1	7539.9	608.0	754.3	545.6
4	60	1	1167.9	2730.9	3566.5	2385.9	133.8	205.4	104.3
4	70	1	1167.9	1056.5	1518.2	877.3	-9.5	30.0	-24.9
4	80	1	1167.9	455.2	727.9	357.1	-61.0	-37.7	-69.4
4	90	1	1167.9	210.5	378.2	155.1	-82.0	-67.6	-86.7
4	10	2	1167.9	1168.0	1188.4	1127.5	0.0	1.8	-3.5
4	20	2	1167.9	1161.9	1244.6	1016.0	-0.5	6.6	-13.0
4	30	2	1167.9	1139.2	1336.6	858.1	-2.5	14.4	-26.5
4	40	2	1167.9	1084.8	1443.7	685.0	-7.1	23.6	-41.3
4	50	2	1167.9	984.3	1533.1	522.5	-15.7	31.3	-55.3
4	60	2	1167.9	836.4	1523.0	384.8	-28.4	30.4	-67.0
4	70	2	1167.9	660.1	1362.1	276.1	-43.5	16.6	-76.4
4	80	2	1167.9	486.1	1071.3	195.5	-58.4	-8.3	-83.3
4	90	2	1167.9	339.4	738.2	137.7	-70.9	-36.8	-88.2
4	10	3	1167.9	389574528.0	1087686910.0	388526176.0	33357052.5	93132626.9	33267287.8
4	20	3	1167.9	15509026.0	17472720.0	15231247.0	1327853.7	1495994.2	1304069.0
4	30	3	1167.9	1438225.1	1603023.1	1378282.3	123047.4	137158.2	117914.8
4	40	3	1167.9	257484.9	302616.4	239413.1	21947.0	25811.4	20399.6
4	50	3	1167.9	66999.6	85176.7	59749.7	5636.8	7193.2	5016.0
4	60	3	1167.9	22005.8	30972.0	18643.2	1784.2	2552.0	1496.3

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
4	70	3	1167.9	8421.1	13377.3	6734.7	621.1	1045.4	476.7
4	80	3	1167.9	3562.0	6509.8	2665.0	205.0	457.4	128.2
4	90	3	1167.9	1602.2	3404.9	1113.9	37.2	191.5	-4.6
4	10	4	1167.9	394275136.0	1111296000.0	394031168.0	33759540.0	95154145.1	33738650.4
4	20	4	1167.9	15924717.0	17546548.0	15820324.0	1363447.1	1502315.7	1354508.5
4	30	4	1167.9	1480117.1	1564202.0	1457116.8	126634.4	133834.1	124665.0
4	40	4	1167.9	266176.1	284118.4	258707.9	22691.2	24227.5	22051.8
4	50	4	1167.9	69888.8	76239.8	66977.4	5884.2	6428.0	5634.9
4	60	4	1167.9	23339.2	26190.8	21937.2	1898.4	2142.6	1778.4
4	70	4	1167.9	9189.1	10644.7	8409.3	686.8	811.4	620.0
4	80	4	1167.9	4070.8	4886.4	3617.3	248.6	318.4	209.7
4	90	4	1167.9	1965.7	2448.5	1680.0	68.3	109.7	43.8
4	10	5	1167.9	1168.3	1180.0	1156.2	0.0	1.0	-1.0
4	20	5	1167.9	1170.3	1194.8	1124.0	0.2	2.3	-3.8
4	30	5	1167.9	1181.1	1236.1	1079.3	1.1	5.8	-7.6
4	40	5	1167.9	1209.5	1313.3	1033.0	3.6	12.4	-11.5
4	50	5	1167.9	1272.9	1457.5	996.0	9.0	24.8	-14.7
4	60	5	1167.9	1398.2	1721.5	978.9	19.7	47.4	-16.2
4	70	5	1167.9	1631.9	2228.5	993.0	39.7	90.8	-15.0
4	80	5	1167.9	2050.0	3209.0	1051.2	75.5	174.8	-10.0
4	90	5	1167.9	2710.5	4931.9	1164.0	132.1	322.3	-0.3
4	10	6	1167.9	1168.2	1179.8	1160.1	0.0	1.0	-0.7
4	20	6	1167.9	1168.5	1184.7	1137.9	0.1	1.4	-2.6
4	30	6	1167.9	1171.7	1207.3	1104.0	0.3	3.4	-5.5
4	40	6	1167.9	1179.5	1244.0	1062.3	1.0	6.5	-9.0
4	50	6	1167.9	1196.2	1302.2	1016.8	2.4	11.5	-12.9
4	60	6	1167.9	1227.2	1394.7	970.5	5.1	19.4	-16.9
4	70	6	1167.9	1279.8	1540.6	924.8	9.6	31.9	-20.8
4	80	6	1167.9	1361.4	1768.1	879.8	16.6	51.4	-24.7
4	90	6	1167.9	1475.5	2122.4	832.0	26.3	81.7	-28.8
8	10	1	1167.9	98190392.0	131655680.0	97989264.0	8407410.4	11272861.3	8390188.9
8	20	1	1167.9	1983062.3	2099897.8	1956420.8	169698.9	179702.8	167417.7
8	30	1	1167.9	176867.9	190436.6	171207.6	15044.2	16206.0	14559.6
8	40	1	1167.9	31501.7	35376.8	29834.1	2597.3	2929.1	2454.5
8	50	1	1167.9	8213.1	9774.4	7526.7	603.2	736.9	544.5
8	60	1	1167.9	2716.3	3476.1	2392.5	132.6	197.6	104.9
8	70	1	1167.9	1053.2	1470.8	883.7	-9.8	25.9	-24.3
8	80	1	1167.9	455.3	699.4	361.8	-61.0	-40.1	-69.0
8	90	1	1167.9	211.6	361.2	158.3	-81.9	-69.1	-86.4
8	10	2	1167.9	1168.0	1188.4	1127.5	0.0	1.8	-3.5
8	20	2	1167.9	1161.8	1244.6	1015.9	-0.5	6.6	-13.0
8	30	2	1167.9	1139.2	1336.6	858.0	-2.5	14.4	-26.5
8	40	2	1167.9	1084.6	1443.6	684.8	-7.1	23.6	-41.4
8	50	2	1167.9	983.9	1532.5	522.3	-15.8	31.2	-55.3
8	60	2	1167.9	835.9	1521.9	384.6	-28.4	30.3	-67.1
8	70	2	1167.9	659.4	1361.2	275.8	-43.5	16.6	-76.4
8	80	2	1167.9	485.4	1069.6	195.3	-58.4	-8.4	-83.3
8	90	2	1167.9	338.8	737.3	137.5	-71.0	-36.9	-88.2

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
8	10	3	1167.9	387782400.0	1075594620.0	386843008.0	33203602.3	92097229.7	33123167.3
8	20	3	1167.9	15357518.0	17253436.0	15104534.0	1314880.9	1477218.1	1293219.3
8	30	3	1167.9	1424293.6	1577715.5	1369945.9	121854.5	134991.2	117201.0
8	40	3	1167.9	255109.4	296576.7	238389.9	21743.6	25294.2	20312.0
8	50	3	1167.9	66454.5	83034.4	59786.6	5590.1	7009.8	5019.2
8	60	3	1167.9	21871.2	29971.3	18735.1	1772.7	2466.3	1504.2
8	70	3	1167.9	8398.0	12829.5	6802.4	619.1	998.5	482.4
8	80	3	1167.9	3570.8	6194.3	2711.1	205.7	430.4	132.1
8	90	3	1167.9	1617.8	3199.4	1142.8	38.5	174.0	-2.1
8	10	4	1167.9	371326432.0	974076864.0	371429760.0	31794567.1	83404815.2	31803414.5
8	20	4	1167.9	14092675.0	15192210.0	14063022.0	1206579.3	1300726.5	1204040.2
8	30	4	1167.9	1303174.4	1329389.5	1297142.6	111483.7	113728.4	110967.3
8	40	4	1167.9	234549.2	235973.4	232446.1	19983.2	20105.1	19803.1
8	50	4	1167.9	61734.5	62239.4	60926.2	5186.0	5229.2	5116.8
8	60	4	1167.9	20730.2	20975.4	20346.9	1675.0	1696.0	1642.2
8	70	4	1167.9	8236.7	8370.2	8046.5	605.3	616.7	589.0
8	80	4	1167.9	3703.9	3784.5	3603.2	217.1	224.0	208.5
8	90	4	1167.9	1831.0	1883.0	1773.7	56.8	61.2	51.9
8	10	5	1167.9	1168.3	1180.0	1156.1	0.0	1.0	-1.0
8	20	5	1167.9	1170.2	1195.0	1123.4	0.2	2.3	-3.8
8	30	5	1167.9	1180.6	1236.1	1078.0	1.1	5.8	-7.7
8	40	5	1167.9	1208.0	1312.6	1030.4	3.4	12.4	-11.8
8	50	5	1167.9	1269.0	1454.5	991.2	8.7	24.5	-15.1
8	60	5	1167.9	1389.2	1712.3	971.1	18.9	46.6	-16.8
8	70	5	1167.9	1612.1	2202.8	980.7	38.0	88.6	-16.0
8	80	5	1167.9	2008.5	3144.4	1032.1	72.0	169.2	-11.6
8	90	5	1167.9	2635.5	4795.2	1135.3	125.7	310.6	-2.8
8	10	6	1167.9	1168.2	1179.8	1158.4	0.0	1.0	-0.8
8	20	6	1167.9	1167.9	1186.4	1130.8	0.0	1.6	-3.2
8	30	6	1167.9	1165.7	1207.5	1085.9	-0.2	3.4	-7.0
8	40	6	1167.9	1159.8	1234.6	1025.8	-0.7	5.7	-12.2
8	50	6	1167.9	1148.3	1266.6	953.4	-1.7	8.4	-18.4
8	60	6	1167.9	1128.5	1302.2	871.7	-3.4	11.5	-25.4
8	70	6	1167.9	1097.9	1333.8	785.3	-6.0	14.2	-32.8
8	80	6	1167.9	1054.4	1356.2	697.5	-9.7	16.1	-40.3
8	90	6	1167.9	996.6	1358.9	612.7	-14.7	16.4	-47.5
16	10	1	1167.9	98159656.0	131581104.0	97945912.0	8404778.6	11266475.8	8386476.9
16	20	1	1167.9	1982453.4	2098598.3	1955341.8	169646.7	179591.6	167325.3
16	30	1	1167.9	176766.7	190301.9	171128.5	15035.6	16194.5	14552.8
16	40	1	1167.9	31485.5	35347.8	29822.6	2595.9	2926.6	2453.6
16	50	1	1167.9	8209.1	9765.0	7525.0	602.9	736.1	544.3
16	60	1	1167.9	2715.2	3472.3	2392.2	132.5	197.3	104.8
16	70	1	1167.9	1052.8	1469.7	883.8	-9.9	25.8	-24.3
16	80	1	1167.9	455.2	698.4	362.0	-61.0	-40.2	-69.0
16	90	1	1167.9	211.7	360.7	158.4	-81.9	-69.1	-86.4
16	10	2	1167.9	1168.0	1188.4	1127.5	0.0	1.8	-3.5
16	20	2	1167.9	1161.8	1244.6	1015.9	-0.5	6.6	-13.0
16	30	2	1167.9	1139.2	1336.6	858.0	-2.5	14.4	-26.5

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
16	40	2	1167.9	1084.6	1443.6	684.8	-7.1	23.6	-41.4
16	50	2	1167.9	983.9	1532.5	522.3	-15.8	31.2	-55.3
16	60	2	1167.9	835.9	1521.9	384.6	-28.4	30.3	-67.1
16	70	2	1167.9	659.4	1361.2	275.8	-43.5	16.6	-76.4
16	80	2	1167.9	485.4	1069.6	195.3	-58.4	-8.4	-83.3
16	90	2	1167.9	338.8	737.3	137.5	-71.0	-36.9	-88.2
16	10	3	1167.9	387609600.0	1074822530.0	386719648.0	33188806.4	92031119.8	33112604.6
16	20	3	1167.9	15347273.0	17240066.0	15095011.0	1314003.7	1476073.3	1292403.9
16	30	3	1167.9	1423338.3	1576351.4	1369120.6	121772.7	134874.4	117130.4
16	40	3	1167.9	254936.8	296283.4	238278.1	21728.9	25269.1	20302.5
16	50	3	1167.9	66412.6	82961.4	59763.3	5586.6	7003.5	5017.2
16	60	3	1167.9	21859.1	29933.3	18731.2	1771.7	2463.0	1503.9
16	70	3	1167.9	8394.6	12812.5	6802.8	618.8	997.1	482.5
16	80	3	1167.9	3570.2	6185.2	2712.3	205.7	429.6	132.2
16	90	3	1167.9	1618.2	3195.1	1143.8	38.6	173.6	-2.1
16	10	4	1167.9	375400128.0	996334336.0	375431200.0	32143375.5	85310601.8	32146036.1
16	20	4	1167.9	14405345.0	15565832.0	14392798.0	1233351.5	1332717.7	1232277.2
16	30	4	1167.9	1333187.6	1365485.9	1332141.0	114053.6	116819.1	113964.0
16	40	4	1167.9	239623.6	242733.4	239531.2	20417.7	20683.9	20409.8
16	50	4	1167.9	63019.9	63536.1	63004.6	5296.0	5340.3	5294.7
16	60	4	1167.9	21150.9	21253.5	21130.4	1711.0	1719.8	1709.3
16	70	4	1167.9	8391.0	8421.1	8385.3	618.5	621.1	618.0
16	80	4	1167.9	3774.1	3779.6	3764.6	223.2	223.6	222.3
16	90	4	1167.9	1861.9	1865.6	1857.6	59.4	59.7	59.1
16	10	5	1167.9	1168.3	1180.0	1156.1	0.0	1.0	-1.0
16	20	5	1167.9	1170.2	1195.0	1123.4	0.2	2.3	-3.8
16	30	5	1167.9	1180.6	1236.1	1078.0	1.1	5.8	-7.7
16	40	5	1167.9	1207.9	1312.6	1030.2	3.4	12.4	-11.8
16	50	5	1167.9	1268.7	1454.3	991.0	8.6	24.5	-15.1
16	60	5	1167.9	1388.6	1711.7	970.7	18.9	46.6	-16.9
16	70	5	1167.9	1610.9	2201.1	979.9	37.9	88.5	-16.1
16	80	5	1167.9	2005.9	3140.4	1030.9	71.8	168.9	-11.7
16	90	5	1167.9	2630.8	4789.5	1133.5	125.3	310.1	-2.9
16	10	6	1167.9	1168.2	1179.8	1158.7	0.0	1.0	-0.8
16	20	6	1167.9	1168.0	1186.1	1132.1	0.0	1.6	-3.1
16	30	6	1167.9	1166.7	1207.3	1089.0	-0.1	3.4	-6.8
16	40	6	1167.9	1162.8	1235.7	1031.9	-0.4	5.8	-11.6
16	50	6	1167.9	1155.7	1271.4	963.8	-1.0	8.9	-17.5
16	60	6	1167.9	1143.4	1316.3	887.3	-2.1	12.7	-24.0
16	70	6	1167.9	1124.3	1363.1	806.0	-3.7	16.7	-31.0
16	80	6	1167.9	1096.5	1412.5	723.4	-6.1	20.9	-38.1
16	90	6	1167.9	1058.4	1455.0	642.4	-9.4	24.6	-45.0

63Table C- 2. Fatigue Life in Passes - Loosely Clamped, Medium Sea State, 15 Knots

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	10	1	976.8	371473280.0	1024603140.0	368332000.0	38030060.1	104895254.8	37708466.7
1	20	1	976.8	14124951.0	18122704.0	13112641.0	1445964.0	1855240.3	1342327.2
1	30	1	976.8	1279893.0	1974485.0	1082577.0	130931.1	202041.0	110730.5
1	40	1	976.8	217559.8	482532.5	164685.5	22173.0	49300.0	16759.9
1	50	1	976.8	51084.5	195795.7	34491.7	5129.9	19944.9	3431.1
1	60	1	976.8	14181.7	116601.6	8713.4	1351.9	11837.3	792.0
1	70	1	976.8	4292.0	88854.1	2472.0	339.4	8996.6	153.1
1	80	1	976.8	1365.3	57240.4	762.2	39.8	5760.1	-22.0
1	90	1	976.8	451.5	17784.2	251.3	-53.8	1720.7	-74.3
1	10	2	976.8	976.4	990.2	950.0	0.0	1.4	-2.7
1	20	2	976.8	977.4	1033.3	877.7	0.1	5.8	-10.1
1	30	2	976.8	981.6	1113.9	777.9	0.5	14.0	-20.4
1	40	2	976.8	991.6	1251.6	671.9	1.5	28.1	-31.2
1	50	2	976.8	1012.6	1475.0	575.0	3.7	51.0	-41.1
1	60	2	976.8	1046.2	1834.5	496.5	7.1	87.8	-49.2
1	70	2	976.8	1084.4	2351.8	439.9	11.0	140.8	-55.0
1	80	2	976.8	1094.0	2746.0	406.6	12.0	181.1	-58.4
1	90	2	976.8	1007.5	2243.7	398.0	3.1	129.7	-59.3
1	10	3	976.8	737941760.0	12171249700.0	735559616.0	75547846.0	1246050693.1	75303970.3
1	20	3	976.8	125029240.0	227603296.0	115361184.0	12799964.7	23301144.7	11810182.3
1	30	3	976.8	13809920.0	27509330.0	11070361.0	1413712.2	2816210.8	1133245.6
1	40	3	976.8	2302929.5	7933208.0	1604040.6	235666.0	812074.6	164116.2
1	50	3	976.8	495210.6	4104624.3	306824.1	50598.0	420117.4	31311.6
1	60	3	976.8	120552.6	2995663.5	69442.9	12241.8	306585.8	7009.3
1	70	3	976.8	31459.4	1400351.0	17640.9	3120.7	143263.1	1706.0
1	80	3	976.8	8709.1	256309.0	4930.4	791.6	26140.0	404.8
1	90	3	976.8	2570.3	40997.4	1492.8	163.1	4097.2	52.8
1	10	4	976.8	737941760.0	12171249700.0	735559616.0	75547846.0	1246050693.1	75303970.3
1	20	4	976.8	125029240.0	227603296.0	115361184.0	12799964.7	23301144.7	11810182.3
1	30	4	976.8	13809920.0	27509330.0	11070361.0	1413712.2	2816210.8	1133245.6
1	40	4	976.8	2302929.5	7933208.0	1604040.6	235666.0	812074.6	164116.2
1	50	4	976.8	495210.6	4104624.3	306824.1	50598.0	420117.4	31311.6
1	60	4	976.8	120552.6	2995663.5	69442.9	12241.8	306585.8	7009.3
1	70	4	976.8	31459.4	1400351.0	17640.9	3120.7	143263.1	1706.0
1	80	4	976.8	8709.1	256309.0	4930.4	791.6	26140.0	404.8
1	90	4	976.8	2570.3	40997.4	1492.8	163.1	4097.2	52.8
1	10	5	976.8	976.5	982.7	965.4	0.0	0.6	-1.2
1	20	5	976.8	982.2	1004.2	935.9	0.5	2.8	-4.2
1	30	5	976.8	999.7	1054.3	900.0	2.3	7.9	-7.9
1	40	5	976.8	1050.3	1158.8	873.2	7.5	18.6	-10.6
1	50	5	976.8	1168.5	1375.0	874.6	19.6	40.8	-10.5

[1] LOI – Location of interest.

[2] Percent change in fatigue life from "axial only ((fatigue life/axial only fatigue life – 1) x 100).

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	60	5	976.8	1427.5	1852.6	930.4	46.1	89.7	-4.7
1	70	5	976.8	2015.5	3046.6	1091.6	106.3	211.9	11.8
1	80	5	976.8	3458.3	6525.1	1495.3	254.1	568.0	53.1
1	90	5	976.8	6647.2	12583.5	2623.5	580.5	1188.3	168.6
1	10	6	976.8	976.5	982.7	965.4	0.0	0.6	-1.2
1	20	6	976.8	982.2	1004.2	935.9	0.5	2.8	-4.2
1	30	6	976.8	999.7	1054.3	900.0	2.3	7.9	-7.9
1	40	6	976.8	1050.3	1158.8	873.2	7.5	18.6	-10.6
1	50	6	976.8	1168.5	1375.0	874.6	19.6	40.8	-10.5
1	60	6	976.8	1427.5	1852.6	930.4	46.1	89.7	-4.7
1	70	6	976.8	2015.5	3046.6	1091.6	106.3	211.9	11.8
1	80	6	976.8	3458.3	6525.1	1495.3	254.1	568.0	53.1
1	90	6	976.8	6647.2	12583.5	2623.5	580.5	1188.3	168.6
2	10	1	976.8	143653664.0	215425120.0	142956624.0	14706669.3	22054384.8	14635308.8
2	20	1	976.8	3203969.3	3498492.0	3122209.8	327911.4	358063.6	319541.1
2	30	1	976.8	286563.8	326609.2	270800.7	29237.4	33337.1	27623.6
2	40	1	976.8	50954.3	63478.6	46216.3	5116.5	6398.7	4631.5
2	50	1	976.8	13227.5	18701.5	11425.7	1254.2	1814.6	1069.7
2	60	1	976.8	4342.3	7262.5	3530.9	344.6	643.5	261.5
2	70	1	976.8	1665.3	3452.5	1274.8	70.5	253.5	30.5
2	80	1	976.8	710.5	1919.8	510.5	-27.3	96.5	-47.7
2	90	1	976.8	326.3	1224.9	220.1	-66.6	25.4	-77.5
2	10	2	976.8	976.3	991.4	946.7	-0.1	1.5	-3.1
2	20	2	976.8	974.5	1036.1	863.8	-0.2	6.1	-11.6
2	30	2	976.8	962.1	1107.7	745.2	-1.5	13.4	-23.7
2	40	2	976.8	931.9	1204.1	612.4	-4.6	23.3	-37.3
2	50	2	976.8	873.9	1305.2	483.6	-10.5	33.6	-50.5
2	60	2	976.8	783.0	1381.4	370.5	-19.8	41.4	-62.1
2	70	2	976.8	663.7	1379.9	278.1	-32.1	41.3	-71.5
2	80	2	976.8	530.9	1253.0	206.2	-45.7	28.3	-78.9
2	90	2	976.8	402.9	1012.3	151.7	-58.8	3.6	-84.5
2	10	3	976.8	473891712.0	1777698560.0	472471552.0	48515307.9	181994580.5	48369916.8
2	20	3	976.8	24481376.0	29110234.0	23793094.0	2506219.3	2980105.9	2435755.3
2	30	3	976.8	2315139.5	2763963.0	2166196.8	236916.0	282865.1	221667.8
2	40	3	976.8	414630.8	549248.2	369207.7	42348.5	56130.1	37698.2
2	50	3	976.8	107351.1	166940.9	89885.0	10890.2	16990.8	9102.1
2	60	3	976.8	34918.1	67489.9	27284.2	3474.8	6809.4	2693.3
2	70	3	976.8	13179.6	33586.5	9607.7	1249.3	3338.5	883.6
2	80	3	976.8	5491.8	19881.9	3735.4	462.2	1935.4	282.4
2	90	3	976.8	2443.7	13631.2	1560.9	150.2	1295.5	59.8
2	10	4	976.8	465434752.0	1688788220.0	464122496.0	47649513.3	172892244.9	47515169.1
2	20	4	976.8	23392856.0	27432518.0	22846336.0	2394780.4	2808347.1	2338829.5
2	30	4	976.8	2210420.3	2569916.8	2088299.5	226195.2	262999.3	213692.9
2	40	4	976.8	396739.9	500943.5	359475.5	40516.9	51184.9	36701.9
2	50	4	976.8	103283.4	148234.1	89095.7	10473.8	15075.7	9021.3
2	60	4	976.8	33946.8	57942.9	27567.9	3375.4	5832.0	2722.3
2	70	4	976.8	13028.8	27842.3	9945.0	1233.8	2750.4	918.1
2	80	4	976.8	5563.0	15665.4	3996.3	469.5	1503.8	309.1

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
2	90	4	976.8	2558.6	10126.8	1728.8	161.9	936.7	77.0
2	10	5	976.8	976.4	981.5	967.4	0.0	0.5	-1.0
2	20	5	976.8	977.8	996.8	941.6	0.1	2.0	-3.6
2	30	5	976.8	984.7	1028.0	905.1	0.8	5.2	-7.3
2	40	5	976.8	1002.9	1083.8	864.6	2.7	11.0	-11.5
2	50	5	976.8	1042.1	1180.5	829.0	6.7	20.9	-15.1
2	60	5	976.8	1117.9	1348.8	806.3	14.4	38.1	-17.5
2	70	5	976.8	1256.5	1653.3	805.3	28.6	69.3	-17.6
2	80	5	976.8	1506.3	2231.0	837.0	54.2	128.4	-14.3
2	90	5	976.8	1955.4	3404.6	920.9	100.2	248.5	-5.7
2	10	6	976.8	976.3	981.3	967.8	0.0	0.5	-0.9
2	20	6	976.8	976.3	993.8	941.9	-0.1	1.7	-3.6
2	30	6	976.8	975.9	1015.4	900.9	-0.1	4.0	-7.8
2	40	6	976.8	973.0	1045.2	847.0	-0.4	7.0	-13.3
2	50	6	976.8	966.9	1082.6	784.3	-1.0	10.8	-19.7
2	60	6	976.8	956.4	1126.1	716.1	-2.1	15.3	-26.7
2	70	6	976.8	939.9	1174.2	646.1	-3.8	20.2	-33.9
2	80	6	976.8	916.3	1223.0	578.1	-6.2	25.2	-40.8
2	90	6	976.8	884.4	1266.3	514.5	-9.5	29.6	-47.3
3	10	1	976.8	146549472.0	220693024.0	145742944.0	15003132.2	22593694.8	14920562.7
3	20	1	976.8	3280313.3	3572540.5	3207018.0	335727.2	365644.4	328223.5
3	30	1	976.8	293841.8	331378.1	278924.3	29982.5	33825.3	28455.3
3	40	1	976.8	52274.3	63780.0	47777.7	5251.7	6429.6	4791.3
3	50	1	976.8	13580.9	18501.5	11850.9	1290.4	1794.1	1113.2
3	60	1	976.8	4461.9	7026.2	3672.3	356.8	619.3	276.0
3	70	1	976.8	1711.9	3232.4	1323.9	75.3	230.9	35.5
3	80	1	976.8	729.2	1715.5	526.9	-25.4	75.6	-46.1
3	90	1	976.8	332.7	1023.6	224.4	-65.9	4.8	-77.0
3	10	2	976.8	976.3	991.5	946.6	-0.1	1.5	-3.1
3	20	2	976.8	974.4	1036.2	863.3	-0.2	6.1	-11.6
3	30	2	976.8	961.6	1107.7	744.1	-1.6	13.4	-23.8
3	40	2	976.8	930.3	1203.1	610.6	-4.8	23.2	-37.5
3	50	2	976.8	870.5	1301.6	481.1	-10.9	33.2	-50.8
3	60	2	976.8	777.1	1372.0	367.4	-20.4	40.5	-62.4
3	70	2	976.8	655.4	1363.0	274.6	-32.9	39.5	-71.9
3	80	2	976.8	521.1	1229.1	202.4	-46.6	25.8	-79.3
3	90	2	976.8	393.1	987.7	147.9	-59.8	1.1	-84.9
3	10	3	976.8	477049856.0	1807065600.0	475650944.0	48838627.8	185001077.3	48695412.0
3	20	3	976.8	24901388.0	29466642.0	24243918.0	2549218.7	3016593.7	2481909.2
3	30	3	976.8	2357603.8	2776483.5	2214767.0	241263.4	284146.9	226640.2
3	40	3	976.8	422426.8	544998.9	379214.3	43146.6	55695.1	38722.7
3	50	3	976.8	109510.8	162459.0	92698.2	11111.3	16532.0	9390.1
3	60	3	976.8	35681.6	63744.1	28238.9	3553.0	6425.9	2791.0
3	70	3	976.8	13485.0	30460.5	9929.4	1280.5	3018.4	916.5
3	80	3	976.8	5610.0	16985.7	3836.2	474.3	1638.9	292.7
3	90	3	976.8	2475.2	10691.7	1575.1	153.4	994.6	61.3
3	10	4	976.8	444891456.0	1481774340.0	444606048.0	45546361.1	151698874.0	45517142.1
3	20	4	976.8	21073916.0	22835348.0	20713020.0	2157375.2	2337704.6	2120427.9

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
3	30	4	976.8	1982751.8	2027481.4	1907505.0	202887.3	207466.6	195183.8
3	40	4	976.8	357579.3	371857.3	334343.5	36507.7	37969.5	34128.9
3	50	4	976.8	94174.4	100097.1	85074.6	9541.3	10147.6	8609.7
3	60	4	976.8	31572.7	34559.1	27443.1	3132.3	3438.0	2709.5
3	70	4	976.8	12515.4	14145.5	10449.9	1181.3	1348.2	969.8
3	80	4	976.8	5594.8	6565.0	4489.5	472.8	572.1	359.6
3	90	4	976.8	2733.2	3332.6	2120.9	179.8	241.2	117.1
3	10	5	976.8	976.4	981.4	967.7	0.0	0.5	-0.9
3	20	5	976.8	978.3	996.7	943.2	0.2	2.0	-3.4
3	30	5	976.8	987.7	1029.5	909.8	1.1	5.4	-6.9
3	40	5	976.8	1011.7	1090.8	875.3	3.6	11.7	-10.4
3	50	5	976.8	1064.5	1202.7	850.5	9.0	23.1	-12.9
3	60	5	976.8	1169.2	1408.4	845.3	19.7	44.2	-13.5
3	70	5	976.8	1368.9	1805.9	873.1	40.1	84.9	-10.6
3	80	5	976.8	1752.1	2635.1	954.4	79.4	169.8	-2.3
3	90	5	976.8	2494.6	4476.0	1130.8	155.4	358.2	15.8
3	10	6	976.8	976.3	981.2	969.2	-0.1	0.4	-0.8
3	20	6	976.8	976.0	990.0	946.4	-0.1	1.4	-3.1
3	30	6	976.8	970.1	1003.9	907.6	-0.7	2.8	-7.1
3	40	6	976.8	958.1	1016.6	852.5	-1.9	4.1	-12.7
3	50	6	976.8	930.7	1021.5	781.4	-4.7	4.6	-20.0
3	60	6	976.8	884.8	1008.5	696.8	-9.4	3.2	-28.7
3	70	6	976.8	815.9	969.3	603.4	-16.5	-0.8	-38.2
3	80	6	976.8	724.5	895.4	506.9	-25.8	-8.3	-48.1
3	90	6	976.8	615.5	784.5	413.3	-37.0	-19.7	-57.7
4	10	1	976.8	146680880.0	220837152.0	145952656.0	15016585.3	22608450.1	14942032.3
4	20	1	976.8	3286063.3	3564823.0	3217674.5	336315.9	364854.4	329314.5
4	30	1	976.8	294507.3	329222.2	280518.0	30050.6	33604.6	28618.5
4	40	1	976.8	52394.9	62928.7	48172.0	5264.0	6342.4	4831.7
4	50	1	976.8	13628.9	18099.2	11990.9	1295.3	1752.9	1127.6
4	60	1	976.8	4486.8	6781.1	3741.3	359.3	594.2	283.0
4	70	1	976.8	1726.8	3070.5	1353.9	76.8	214.3	38.6
4	80	1	976.8	738.5	1594.1	542.0	-24.4	63.2	-44.5
4	90	1	976.8	338.5	922.6	231.5	-65.3	-5.6	-76.3
4	10	2	976.8	976.3	991.4	946.7	-0.1	1.5	-3.1
4	20	2	976.8	974.5	1036.1	863.8	-0.2	6.1	-11.6
4	30	2	976.8	962.1	1107.8	745.3	-1.5	13.4	-23.7
4	40	2	976.8	932.0	1204.3	612.5	-4.6	23.3	-37.3
4	50	2	976.8	874.2	1305.9	483.7	-10.5	33.7	-50.5
4	60	2	976.8	783.5	1382.9	370.6	-19.8	41.6	-62.1
4	70	2	976.8	664.3	1382.8	278.0	-32.0	41.6	-71.5
4	80	2	976.8	531.3	1256.8	205.9	-45.6	28.7	-78.9
4	90	2	976.8	403.0	1015.8	151.1	-58.7	4.0	-84.5
4	10	3	976.8	477614752.0	1810117890.0	476184000.0	48896459.9	185313560.3	48749984.5
4	20	3	976.8	24946952.0	29424214.0	24356648.0	2553883.4	3012250.1	2493450.1
4	30	3	976.8	2363777.3	2757421.8	2230423.8	241895.4	282195.4	228243.1
4	40	3	976.8	424111.3	537105.2	383289.3	43319.1	54887.0	39139.8
4	50	3	976.8	110114.0	158219.9	94289.3	11173.1	16098.0	9553.0

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
4	60	3	976.8	35981.6	61105.7	28835.7	3583.7	6155.8	2852.1
4	70	3	976.8	13654.7	28607.8	10200.8	1297.9	2828.8	944.3
4	80	3	976.8	5709.9	15508.4	3958.9	484.6	1487.7	305.3
4	90	3	976.8	2532.1	9389.5	1630.4	159.2	861.3	66.9
4	10	4	976.8	482288096.0	1845017470.0	481611744.0	49374900.9	188886459.6	49305658.3
4	20	4	976.8	25656278.0	29253162.0	25397106.0	2626501.7	2994738.4	2599968.6
4	30	4	976.8	2438552.0	2630356.0	2383364.5	249550.6	269186.8	243900.7
4	40	4	976.8	439489.3	482900.4	422663.1	44893.4	49337.7	43170.8
4	50	4	976.8	115580.6	131551.8	108752.7	11732.7	13367.8	11033.7
4	60	4	976.8	38591.6	46114.2	35393.1	3850.9	4621.0	3523.4
4	70	4	976.8	15195.5	19268.6	13503.3	1455.7	1872.7	1282.4
4	80	4	976.8	6732.1	9147.1	5768.2	589.2	836.4	490.5
4	90	4	976.8	3251.9	4783.2	2665.0	232.9	389.7	172.8
4	10	5	976.8	976.4	981.4	968.0	0.0	0.5	-0.9
4	20	5	976.8	978.5	996.4	944.3	0.2	2.0	-3.3
4	30	5	976.8	989.2	1029.4	912.5	1.3	5.4	-6.6
4	40	5	976.8	1015.1	1092.1	880.9	3.9	11.8	-9.8
4	50	5	976.8	1072.5	1208.5	860.6	9.8	23.7	-11.9
4	60	5	976.8	1188.0	1426.2	862.9	21.6	46.0	-11.7
4	70	5	976.8	1411.4	1857.3	903.0	44.5	90.1	-7.6
4	80	5	976.8	1850.0	2783.2	1005.8	89.4	184.9	3.0
4	90	5	976.8	2718.7	4881.9	1224.1	178.3	399.8	25.3
4	10	6	976.8	976.4	981.3	971.0	0.0	0.5	-0.6
4	20	6	976.8	976.8	988.7	954.5	0.0	1.2	-2.3
4	30	6	976.8	980.7	1006.3	929.6	0.4	3.0	-4.8
4	40	6	976.8	987.8	1035.6	899.9	1.1	6.0	-7.9
4	50	6	976.8	1003.7	1082.3	868.2	2.8	10.8	-11.1
4	60	6	976.8	1033.3	1156.2	838.7	5.8	18.4	-14.1
4	70	6	976.8	1083.9	1272.3	814.0	11.0	30.3	-16.7
4	80	6	976.8	1165.9	1460.7	795.6	19.4	49.5	-18.6
4	90	6	976.8	1292.6	1766.5	785.2	32.3	80.9	-19.6
8	10	1	976.8	145742912.0	218953600.0	145112816.0	14920559.4	22415618.5	14856052.3
8	20	1	976.8	3263835.0	3525804.5	3197190.8	334040.2	360859.8	327217.4
8	30	1	976.8	292271.0	324733.6	279184.1	29821.7	33145.1	28481.9
8	40	1	976.8	52044.4	61729.3	48155.3	5228.1	6219.6	4830.0
8	50	1	976.8	13547.4	17628.0	12009.6	1286.9	1704.7	1129.5
8	60	1	976.8	4468.1	6553.0	3764.9	357.4	570.9	285.4
8	70	1	976.8	1725.0	2936.2	1370.7	76.6	200.6	40.3
8	80	1	976.8	741.2	1503.7	552.1	-24.1	53.9	-43.5
8	90	1	976.8	342.0	855.1	237.9	-65.0	-12.5	-75.6
8	10	2	976.8	976.3	991.4	946.7	-0.1	1.5	-3.1
8	20	2	976.8	974.5	1036.1	863.8	-0.2	6.1	-11.6
8	30	2	976.8	962.1	1107.7	745.2	-1.5	13.4	-23.7
8	40	2	976.8	931.9	1204.2	612.4	-4.6	23.3	-37.3
8	50	2	976.8	873.9	1305.4	483.5	-10.5	33.6	-50.5
8	60	2	976.8	782.9	1381.9	370.3	-19.8	41.5	-62.1
8	70	2	976.8	663.5	1381.0	277.7	-32.1	41.4	-71.6
8	80	2	976.8	530.4	1254.4	205.6	-45.7	28.4	-79.0

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
8	90	2	976.8	402.1	1013.4	150.9	-58.8	3.7	-84.6
8	10	3	976.8	475061952.0	1789994750.0	474495552.0	48635113.0	183253422.3	48577126.9
8	20	3	976.8	24721692.0	29029920.0	24164886.0	2530822.0	2971883.6	2473818.1
8	30	3	976.8	2342220.0	2708174.3	2217303.8	239688.4	277153.6	226900.0
8	40	3	976.8	420417.8	524106.4	382256.9	42940.9	53556.2	39034.2
8	50	3	976.8	109323.0	152930.1	94504.0	11092.1	15556.5	9575.0
8	60	3	976.8	35828.4	58421.8	29102.7	3568.0	5881.0	2879.4
8	70	3	976.8	13662.3	26972.8	10378.2	1298.7	2661.4	962.5
8	80	3	976.8	5754.0	14361.5	4056.9	489.1	1370.3	315.3
8	90	3	976.8	2576.4	8534.1	1689.0	163.8	773.7	72.9
8	10	4	976.8	460059424.0	1613811330.0	459507840.0	47099205.7	165216368.1	47042736.4
8	20	4	976.8	22750860.0	25150766.0	22666006.0	2329055.0	2574749.1	2320367.9
8	30	4	976.8	2147236.5	2199496.5	2132805.8	219726.7	225076.9	218249.3
8	40	4	976.8	388039.5	391142.5	382692.1	39626.2	39943.8	39078.7
8	50	4	976.8	102299.4	103491.1	100149.6	10373.1	10495.1	10153.0
8	60	4	976.8	34306.9	34899.9	33357.5	3412.2	3472.9	3315.0
8	70	4	976.8	13628.4	13940.5	13134.3	1295.2	1327.2	1244.6
8	80	4	976.8	6128.3	6309.1	5846.6	527.4	545.9	498.5
8	90	4	976.8	3025.6	3141.4	2860.9	209.7	221.6	192.9
8	10	5	976.8	976.4	981.4	967.9	0.0	0.5	-0.9
8	20	5	976.8	978.4	996.5	943.9	0.2	2.0	-3.4
8	30	5	976.8	988.6	1029.4	911.4	1.2	5.4	-6.7
8	40	5	976.8	1013.9	1091.5	878.8	3.8	11.7	-10.0
8	50	5	976.8	1069.4	1206.0	856.7	9.5	23.5	-12.3
8	60	5	976.8	1180.5	1418.7	856.0	20.9	45.2	-12.4
8	70	5	976.8	1394.2	1836.1	891.2	42.7	88.0	-8.8
8	80	5	976.8	1810.1	2722.3	985.2	85.3	178.7	0.9
8	90	5	976.8	2626.8	4715.5	1186.2	168.9	382.8	21.4
8	10	6	976.8	976.3	981.2	969.7	0.0	0.5	-0.7
8	20	6	976.8	976.2	990.0	949.2	-0.1	1.4	-2.8
8	30	6	976.8	975.8	1006.5	915.7	-0.1	3.0	-6.3
8	40	6	976.8	971.8	1027.9	870.9	-0.5	5.2	-10.8
8	50	6	976.8	964.7	1053.7	816.1	-1.2	7.9	-16.5
8	60	6	976.8	951.6	1080.4	753.7	-2.6	10.6	-22.8
8	70	6	976.8	931.0	1107.3	686.6	-4.7	13.4	-29.7
8	80	6	976.8	901.0	1129.2	616.8	-7.8	15.6	-36.9
8	90	6	976.8	860.4	1140.5	547.3	-11.9	16.8	-44.0
16	10	1	976.8	145720960.0	218827376.0	145054368.0	14918312.0	22402696.1	14850068.6
16	20	1	976.8	3261150.8	3523506.8	3195628.8	333765.4	360624.5	327057.5
16	30	1	976.8	292065.7	324481.2	279064.5	29800.7	33119.3	28469.7
16	40	1	976.8	52013.4	61670.3	48135.5	5225.0	6213.6	4828.0
16	50	1	976.8	13540.9	17607.1	12008.3	1286.3	1702.6	1129.4
16	60	1	976.8	4466.4	6544.2	3765.1	357.3	570.0	285.5
16	70	1	976.8	1724.5	2931.1	1371.0	76.5	200.1	40.4
16	80	1	976.8	741.2	1500.5	552.5	-24.1	53.6	-43.4
16	90	1	976.8	342.1	853.2	238.2	-65.0	-12.7	-75.6
16	10	2	976.8	976.3	991.4	946.7	-0.1	1.5	-3.1
16	20	2	976.8	974.5	1036.1	863.8	-0.2	6.1	-11.6

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
16	30	2	976.8	962.1	1107.7	745.2	-1.5	13.4	-23.7
16	40	2	976.8	931.9	1204.2	612.4	-4.6	23.3	-37.3
16	50	2	976.8	873.9	1305.4	483.5	-10.5	33.6	-50.5
16	60	2	976.8	782.9	1381.9	370.3	-19.8	41.5	-62.1
16	70	2	976.8	663.5	1381.0	277.7	-32.1	41.4	-71.6
16	80	2	976.8	530.4	1254.4	205.6	-45.7	28.4	-79.0
16	90	2	976.8	402.1	1013.4	150.9	-58.8	3.7	-84.6
16	10	3	976.8	475023424.0	1788693760.0	474374400.0	48631168.7	183120231.4	48564723.8
16	20	3	976.8	24702922.0	29006508.0	24150244.0	2528900.4	2969486.8	2472319.1
16	30	3	976.8	2340993.0	2705628.5	2216052.5	239562.8	276893.0	226771.9
16	40	3	976.8	420112.9	523510.2	382196.3	42909.7	53495.2	39027.9
16	50	3	976.8	109256.9	152717.8	94475.3	11085.3	15534.7	9572.1
16	60	3	976.8	35810.4	58323.3	29100.1	3566.1	5870.9	2879.2
16	70	3	976.8	13657.8	26917.9	10380.2	1298.2	2655.8	962.7
16	80	3	976.8	5753.7	14327.2	4059.7	489.0	1366.8	315.6
16	90	3	976.8	2577.3	8508.6	1690.3	163.9	771.1	73.0
16	10	4	976.8	464192096.0	1651063300.0	463483744.0	47522294.5	169030097.0	47449775.8
16	20	4	976.8	23224574.0	25793506.0	23204062.0	2377552.2	2640550.7	2375452.3
16	30	4	976.8	2195477.0	2264654.5	2194321.5	224665.4	231747.6	224547.1
16	40	4	976.8	396702.8	402462.3	395951.4	40513.1	41102.7	40436.1
16	50	4	976.8	104443.9	105320.4	104250.3	10592.6	10682.3	10572.8
16	60	4	976.8	35064.5	35218.9	34972.3	3489.8	3505.6	3480.3
16	70	4	976.8	13921.2	13949.0	13877.8	1325.2	1328.1	1320.8
16	80	4	976.8	6252.7	6265.4	6229.2	540.1	541.4	537.7
16	90	4	976.8	3083.2	3094.1	3072.3	215.6	216.8	214.5
16	10	5	976.8	976.4	981.4	967.9	0.0	0.5	-0.9
16	20	5	976.8	978.4	996.5	943.8	0.2	2.0	-3.4
16	30	5	976.8	988.6	1029.4	911.4	1.2	5.4	-6.7
16	40	5	976.8	1013.9	1091.5	878.6	3.8	11.7	-10.0
16	50	5	976.8	1069.2	1205.9	856.5	9.5	23.5	-12.3
16	60	5	976.8	1180.0	1418.2	855.6	20.8	45.2	-12.4
16	70	5	976.8	1393.2	1834.8	890.4	42.6	87.8	-8.8
16	80	5	976.8	1807.6	2718.4	983.9	85.1	178.3	0.7
16	90	5	976.8	2621.1	4705.3	1183.8	168.3	381.7	21.2
16	10	6	976.8	976.3	981.2	970.0	0.0	0.5	-0.7
16	20	6	976.8	976.3	989.8	950.1	-0.1	1.3	-2.7
16	30	6	976.8	976.1	1006.3	918.1	-0.1	3.0	-6.0
16	40	6	976.8	974.9	1028.9	875.7	-0.2	5.3	-10.4
16	50	6	976.8	970.4	1057.8	824.5	-0.7	8.3	-15.6
16	60	6	976.8	963.9	1091.4	766.8	-1.3	11.7	-21.5
16	70	6	976.8	953.0	1130.8	705.4	-2.4	15.8	-27.8
16	80	6	976.8	937.0	1173.4	641.5	-4.1	20.1	-34.3
16	90	6	976.8	914.6	1217.2	578.3	-6.4	24.6	-40.8

Table C- 3. Fatigue Life in Passes - Loosely Clamped, Low Sea State, 25 Knots

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	10	1	9291.5	606397248.0	18756431900.0	605470464.0	6526243.7	201865791.6	6516269.2
1	20	1	9291.5	120512480.0	344673088.0	114425144.0	1296914.2	3709440.3	1231399.4
1	30	1	9291.5	17093538.0	40189516.0	14242861.0	183869.0	432439.2	153188.6
1	40	1	9291.5	3217802.5	10668111.0	2301168.8	34531.6	114715.4	24666.3
1	50	1	9291.5	762818.3	4780892.0	475613.3	8109.8	51354.3	5018.8
1	60	1	9291.5	205340.3	2898544.3	115846.7	2110.0	31095.6	1146.8
1	70	1	9291.5	59193.9	1581263.6	31764.1	537.1	16918.3	241.9
1	80	1	9291.5	17919.1	515719.8	9569.0	92.9	5450.4	3.0
1	90	1	9291.5	5701.6	101342.7	3121.9	-38.6	990.7	-66.4
1	10	2	9291.5	9300.5	9415.7	9082.5	0.1	1.3	-2.2
1	20	2	9291.5	9318.4	9811.4	8507.7	0.3	5.6	-8.4
1	30	2	9291.5	9374.3	10589.1	7713.9	0.9	14.0	-17.0
1	40	2	9291.5	9562.6	11945.3	6866.1	2.9	28.6	-26.1
1	50	2	9291.5	9953.5	14321.1	6107.7	7.1	54.1	-34.3
1	60	2	9291.5	10671.7	18618.5	5530.6	14.9	100.4	-40.5
1	70	2	9291.5	11826.3	26354.3	5195.7	27.3	183.6	-44.1
1	80	2	9291.5	13344.7	37778.2	5189.6	43.6	306.6	-44.1
1	90	2	9291.5	14407.0	39966.5	5655.1	55.1	330.1	-39.1
1	10	3	9291.5	806428096.0	224013074000.0	803391488.0	8679073.5	2410938140.4	8646392.0
1	20	3	9291.5	401611328.0	4433355780.0	393104416.0	4322237.5	47713842.7	4230681.9
1	30	3	9291.5	118506144.0	597281856.0	101130576.0	1275321.1	6428139.4	1088316.7
1	40	3	9291.5	28057542.0	211883760.0	19427932.0	301869.0	2280296.6	208992.9
1	50	3	9291.5	6570581.0	143389360.0	3867813.8	70615.8	1543126.4	41527.3
1	60	3	9291.5	1574980.3	77727120.0	859244.5	16850.7	836437.3	9147.6
1	70	3	9291.5	392389.3	12141955.0	212572.3	4123.1	130577.7	2187.8
1	80	3	9291.5	104018.5	1400489.6	58581.1	1019.5	14972.8	530.5
1	90	3	9291.5	29839.4	215111.1	17710.4	221.1	2215.1	90.6
1	10	4	9291.5	806428096.0	224013074000.0	803391488.0	8679073.5	2410938140.4	8646392.0
1	20	4	9291.5	401611328.0	4433355780.0	393104416.0	4322237.5	47713842.7	4230681.9
1	30	4	9291.5	118506144.0	597281856.0	101130576.0	1275321.1	6428139.4	1088316.7
1	40	4	9291.5	28057542.0	211883760.0	19427932.0	301869.0	2280296.6	208992.9
1	50	4	9291.5	6570581.0	143389360.0	3867813.8	70615.8	1543126.4	41527.3
1	60	4	9291.5	1574980.3	77727120.0	859244.5	16850.7	836437.3	9147.6
1	70	4	9291.5	392389.3	12141955.0	212572.3	4123.1	130577.7	2187.8
1	80	4	9291.5	104018.5	1400489.6	58581.1	1019.5	14972.8	530.5
1	90	4	9291.5	29839.4	215111.1	17710.4	221.1	2215.1	90.6
1	10	5	9291.5	9301.4	9347.0	9203.6	0.1	0.6	-0.9
1	20	5	9291.5	9342.6	9545.8	8979.3	0.5	2.7	-3.4
1	30	5	9291.5	9511.4	10010.3	8720.8	2.4	7.7	-6.1
1	40	5	9291.5	10013.5	11002.2	8586.8	7.8	18.4	-7.6
1	50	5	9291.5	11197.5	13064.0	8791.9	20.5	40.6	-5.4

[1] LOI – Location of interest.
[2] Percent change in fatigue life from "axial only ((fatigue life/axial only fatigue life – 1) x 100).

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	60	5	9291.5	13830.8	17653.0	9673.8	48.9	90.0	4.1
1	70	5	9291.5	20128.5	29771.8	12034.1	116.6	220.4	29.5
1	80	5	9291.5	38317.5	73812.5	18407.6	312.4	694.4	98.1
1	90	5	9291.5	104841.4	281728.0	41433.7	1028.4	2932.1	345.9
1	10	6	9291.5	9301.4	9347.0	9203.6	0.1	0.6	-0.9
1	20	6	9291.5	9342.6	9545.8	8979.3	0.5	2.7	-3.4
1	30	6	9291.5	9511.4	10010.3	8720.8	2.4	7.7	-6.1
1	40	6	9291.5	10013.5	11002.2	8586.8	7.8	18.4	-7.6
1	50	6	9291.5	11197.5	13064.0	8791.9	20.5	40.6	-5.4
1	60	6	9291.5	13830.8	17653.0	9673.8	48.9	90.0	4.1
1	70	6	9291.5	20128.5	29771.8	12034.1	116.6	220.4	29.5
1	80	6	9291.5	38317.5	73812.5	18407.6	312.4	694.4	98.1
1	90	6	9291.5	104841.4	281728.0	41433.7	1028.4	2932.1	345.9
2	10	1	9291.5	423927776.0	3914384900.0	424092960.0	4562418.0	42128424.4	4564195.8
2	20	1	9291.5	38265644.0	64172488.0	37354544.0	411733.6	690555.7	401927.9
2	30	1	9291.5	4281053.5	6016260.0	4003090.3	45974.8	64649.9	42983.2
2	40	1	9291.5	805891.3	1170749.8	711996.2	8573.4	12500.2	7562.9
2	50	1	9291.5	213245.0	349668.3	176061.3	2195.0	3663.3	1794.9
2	60	1	9291.5	70285.8	138815.9	53846.8	656.5	1394.0	479.5
2	70	1	9291.5	26811.9	68161.9	18990.2	188.6	633.6	104.4
2	80	1	9291.5	11290.0	39431.5	7413.2	21.5	324.4	-20.2
2	90	1	9291.5	5082.9	25986.8	3119.9	-45.3	179.7	-66.4
2	10	2	9291.5	9299.0	9428.5	9056.1	0.1	1.5	-2.5
2	20	2	9291.5	9275.5	9836.9	8389.1	-0.2	5.9	-9.7
2	30	2	9291.5	9204.3	10531.7	7419.5	-0.9	13.3	-20.1
2	40	2	9291.5	9007.7	11515.0	6295.3	-3.1	23.9	-32.2
2	50	2	9291.5	8623.1	12738.4	5158.6	-7.2	37.1	-44.5
2	60	2	9291.5	7989.6	14057.8	4112.3	-14.0	51.3	-55.7
2	70	2	9291.5	7099.4	15091.6	3211.6	-23.6	62.4	-65.4
2	80	2	9291.5	6016.4	15177.7	2472.6	-35.2	63.3	-73.4
2	90	2	9291.5	4862.7	13866.3	1887.4	-47.7	49.2	-79.7
2	10	3	9291.5	663059840.0	32320145400.0	663095168.0	7136074.2	347845108.7	7136454.4
2	20	3	9291.5	173126496.0	536535200.0	170332864.0	1863172.0	5774354.2	1833105.6
2	30	3	9291.5	28995390.0	52127752.0	27090894.0	311962.6	560924.4	291465.4
2	40	3	9291.5	6060178.5	10610524.0	5279785.0	65122.6	114095.6	56723.6
2	50	3	9291.5	1653658.5	3293538.5	1325191.3	17697.5	35346.7	14162.4
2	60	3	9291.5	546987.6	1372625.9	401395.5	5786.9	14672.9	4220.0
2	70	3	9291.5	206061.5	715025.4	138537.0	2117.7	7595.5	1391.0
2	80	3	9291.5	84604.9	442215.8	52602.2	810.6	4659.3	466.1
2	90	3	9291.5	36743.9	309813.0	21384.2	295.5	3234.4	130.1
2	10	4	9291.5	659942976.0	30680797200.0	658595264.0	7102529.0	330201641.8	7088024.3
2	20	4	9291.5	168055936.0	503586208.0	165978608.0	1808600.2	5419741.0	1786242.9
2	30	4	9291.5	27826450.0	48112932.0	26303412.0	299381.9	517714.9	282990.2
2	40	4	9291.5	5818603.5	9526582.0	5177458.5	62522.7	102429.7	55622.3
2	50	4	9291.5	1596613.9	2859402.0	1324050.1	17083.5	30674.3	14150.1
2	60	4	9291.5	534748.2	1139917.3	410573.0	5655.2	12168.3	4318.8
2	70	4	9291.5	205568.6	562531.3	145666.5	2112.4	5954.2	1467.7
2	80	4	9291.5	86862.2	328845.8	57041.9	834.9	3439.2	513.9

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
2	90	4	9291.5	39146.0	219163.9	23990.9	321.3	2258.7	158.2
2	10	5	9291.5	9299.5	9335.5	9219.2	0.1	0.5	-0.8
2	20	5	9291.5	9318.4	9477.3	9019.9	0.3	2.0	-2.9
2	30	5	9291.5	9370.7	9765.2	8739.4	0.9	5.1	-5.9
2	40	5	9291.5	9565.3	10291.0	8443.8	2.9	10.8	-9.1
2	50	5	9291.5	9960.9	11210.7	8223.1	7.2	20.7	-11.5
2	60	5	9291.5	10735.6	12828.8	8162.9	15.5	38.1	-12.1
2	70	5	9291.5	12185.4	15769.8	8388.5	31.1	69.7	-9.7
2	80	5	9291.5	14907.0	21597.1	9087.5	60.4	132.4	-2.2
2	90	5	9291.5	20269.3	34675.7	10656.2	118.1	273.2	14.7
2	10	6	9291.5	9298.7	9332.0	9222.3	0.1	0.4	-0.7
2	20	6	9291.5	9298.8	9449.3	9018.9	0.1	1.7	-2.9
2	30	6	9291.5	9291.0	9645.4	8691.6	0.0	3.8	-6.5
2	40	6	9291.5	9265.3	9926.6	8253.0	-0.3	6.8	-11.2
2	50	6	9291.5	9226.8	10286.5	7735.6	-0.7	10.7	-16.7
2	60	6	9291.5	9163.4	10726.0	7160.6	-1.4	15.4	-22.9
2	70	6	9291.5	9053.4	11245.0	6551.3	-2.6	21.0	-29.5
2	80	6	9291.5	8889.5	11816.1	5935.6	-4.3	27.2	-36.1
2	90	6	9291.5	8662.4	12447.5	5327.8	-6.8	34.0	-42.7
3	10	1	9291.5	427841120.0	4008989440.0	427397120.0	4604535.3	43146604.7	4599756.8
3	20	1	9291.5	39054288.0	65458124.0	38220972.0	420221.3	704392.3	411252.8
3	30	1	9291.5	4389065.0	6090669.5	4125887.5	47137.3	65450.8	44304.8
3	40	1	9291.5	827380.8	1173791.4	738067.8	8804.7	12532.9	7843.4
3	50	1	9291.5	219464.7	345948.1	183950.4	2262.0	3623.3	1879.8
3	60	1	9291.5	72638.3	134872.1	56642.9	681.8	1351.6	509.6
3	70	1	9291.5	27882.7	64687.5	20160.5	200.1	596.2	117.0
3	80	1	9291.5	11840.0	36362.4	7947.0	27.4	291.4	-14.5
3	90	1	9291.5	5383.9	23191.0	3367.1	-42.1	149.6	-63.8
3	10	2	9291.5	9299.0	9429.0	9055.1	0.1	1.5	-2.5
3	20	2	9291.5	9274.2	9838.3	8385.1	-0.2	5.9	-9.8
3	30	2	9291.5	9200.1	10531.7	7410.2	-1.0	13.3	-20.2
3	40	2	9291.5	8993.5	11507.3	6278.7	-3.2	23.8	-32.4
3	50	2	9291.5	8591.3	12706.0	5133.7	-7.5	36.7	-44.7
3	60	2	9291.5	7931.5	13969.1	4079.2	-14.6	50.3	-56.1
3	70	2	9291.5	7011.5	14903.8	3171.9	-24.5	60.4	-65.9
3	80	2	9291.5	5903.6	14867.0	2428.5	-36.5	60.0	-73.9
3	90	2	9291.5	4737.2	13470.7	1840.6	-49.0	45.0	-80.2
3	10	3	9291.5	665153536.0	32843894800.0	664763712.0	7158607.6	353481955.9	7154412.1
3	20	3	9291.5	174715312.0	542112256.0	172347824.0	1880271.6	5834377.2	1854791.6
3	30	3	9291.5	29435862.0	52217124.0	27672686.0	316703.1	561886.2	297727.0
3	40	3	9291.5	6174586.0	10479993.0	5439686.5	66353.9	112690.8	58444.6
3	50	3	9291.5	1691732.8	3196506.3	1378469.0	18107.3	34302.4	14735.8
3	60	3	9291.5	563104.1	1300511.5	421702.3	5960.4	13896.7	4438.6
3	70	3	9291.5	214088.7	657088.0	147227.1	2204.1	6971.9	1484.5
3	80	3	9291.5	88949.1	392649.3	56448.2	857.3	4125.9	507.5
3	90	3	9291.5	39149.8	266428.0	23204.8	321.3	2767.4	149.7
3	10	4	9291.5	648381888.0	26818885600.0	648068608.0	6978102.9	288637860.7	6974731.3
3	20	4	9291.5	157298432.0	411723872.0	156023616.0	1692822.6	4431073.6	1679102.4

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
3	30	4	9291.5	25368486.0	35061148.0	24461280.0	272928.1	377245.2	263164.3
3	40	4	9291.5	5285615.0	5929410.5	4914271.5	56786.4	63715.2	52789.8
3	50	4	9291.5	1465426.9	1582849.6	1303528.5	15671.6	16935.4	13929.2
3	60	4	9291.5	502737.7	564051.3	424609.9	5310.7	5970.6	4469.9
3	70	4	9291.5	201176.4	236298.0	160352.0	2065.2	2443.2	1625.8
3	80	4	9291.5	90233.2	111535.7	67596.3	871.1	1100.4	627.5
3	90	4	9291.5	44100.1	57802.8	31031.3	374.6	522.1	234.0
3	10	5	9291.5	9299.8	9334.5	9221.8	0.1	0.5	-0.8
3	20	5	9291.5	9328.3	9477.1	9033.3	0.4	2.0	-2.8
3	30	5	9291.5	9400.6	9778.3	8781.7	1.2	5.2	-5.5
3	40	5	9291.5	9634.8	10357.2	8544.3	3.7	11.5	-8.0
3	50	5	9291.5	10167.6	11416.6	8432.5	9.4	22.9	-9.2
3	60	5	9291.5	11229.2	13382.3	8569.2	20.9	44.0	-7.8
3	70	5	9291.5	13291.9	17203.5	9149.3	43.1	85.2	-1.5
3	80	5	9291.5	17464.4	25575.5	10539.6	88.0	175.3	13.4
3	90	5	9291.5	26750.3	47535.3	13638.9	187.9	411.6	46.8
3	10	6	9291.5	9298.4	9325.1	9232.7	0.1	0.4	-0.6
3	20	6	9291.5	9292.7	9415.2	9051.8	0.0	1.3	-2.6
3	30	6	9291.5	9229.0	9536.9	8738.0	-0.7	2.6	-6.0
3	40	6	9291.5	9113.7	9654.0	8270.8	-1.9	3.9	-11.0
3	50	6	9291.5	8872.7	9705.6	7654.3	-4.5	4.5	-17.6
3	60	6	9291.5	8454.6	9608.0	6891.5	-9.0	3.4	-25.8
3	70	6	9291.5	7821.9	9279.9	6006.9	-15.8	-0.1	-35.4
3	80	6	9291.5	6973.5	8656.7	5054.3	-24.9	-6.8	-45.6
3	90	6	9291.5	5952.0	7719.9	4093.2	-35.9	-16.9	-55.9
4	10	1	9291.5	427855008.0	4010688000.0	427625184.0	4604684.8	43164885.4	4602211.3
4	20	1	9291.5	39134756.0	65264392.0	38335076.0	421087.4	702307.3	412480.8
4	30	1	9291.5	4393696.0	6038601.0	4152989.0	47187.1	64890.4	44596.5
4	40	1	9291.5	829440.1	1154375.5	746723.1	8826.8	12324.0	7936.6
4	50	1	9291.5	220486.2	336544.6	187041.2	2273.0	3522.1	1913.0
4	60	1	9291.5	73216.7	129424.1	58063.8	688.0	1292.9	524.9
4	70	1	9291.5	28254.2	60947.7	20840.7	204.1	555.9	124.3
4	80	1	9291.5	12088.3	33627.9	8284.2	30.1	261.9	-10.8
4	90	1	9291.5	5550.7	20957.5	3542.3	-40.3	125.6	-61.9
4	10	2	9291.5	9299.0	9428.5	9056.2	0.1	1.5	-2.5
4	20	2	9291.5	9275.6	9836.9	8389.4	-0.2	5.9	-9.7
4	30	2	9291.5	9204.8	10531.9	7420.4	-0.9	13.3	-20.1
4	40	2	9291.5	9009.5	11518.6	6296.9	-3.0	24.0	-32.2
4	50	2	9291.5	8627.0	12743.5	5161.1	-7.2	37.2	-44.5
4	60	2	9291.5	7996.5	14071.2	4115.4	-13.9	51.4	-55.7
4	70	2	9291.5	7109.5	15119.5	3215.2	-23.5	62.7	-65.4
4	80	2	9291.5	6028.9	15222.7	2476.5	-35.1	63.8	-73.3
4	90	2	9291.5	4875.9	13921.0	1891.1	-47.5	49.8	-79.6
4	10	3	9291.5	665205120.0	32888789000.0	665033600.0	7159162.8	353965129.2	7157316.8
4	20	3	9291.5	175200176.0	540668096.0	172798848.0	1885490.0	5818834.4	1859645.7
4	30	3	9291.5	29542512.0	51740988.0	27866884.0	317851.0	556761.8	299817.0
4	40	3	9291.5	6202023.0	10281075.0	5503357.5	66649.2	110550.0	59129.8
4	50	3	9291.5	1703310.4	3093821.8	1406286.3	18231.9	33197.2	15035.1

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
4	60	3	9291.5	569584.6	1237929.1	433519.1	6030.1	13223.2	4565.7
4	70	3	9291.5	218106.9	612293.4	152976.5	2247.4	6489.8	1546.4
4	80	3	9291.5	91517.9	357096.8	59229.5	885.0	3743.3	537.5
4	90	3	9291.5	40773.7	236213.7	24594.3	338.8	2442.2	164.7
4	10	4	9291.5	668535744.0	33459865600.0	667770176.0	7195008.6	360111334.8	7186769.2
4	20	4	9291.5	178198352.0	532481952.0	177154704.0	1917757.8	5730731.1	1906525.5
4	30	4	9291.5	30350064.0	48184260.0	29673690.0	326542.2	518482.6	319262.8
4	40	4	9291.5	6423972.5	8857576.0	6144784.0	69037.9	95229.6	66033.2
4	50	4	9291.5	1792361.0	2408703.5	1664444.4	19190.3	25823.6	17813.6
4	60	4	9291.5	615856.6	848857.8	552977.4	6528.2	9035.8	5851.4
4	70	4	9291.5	246536.4	359820.8	212767.6	2553.3	3772.6	2189.9
4	80	4	9291.5	110484.3	174946.0	91244.5	1089.1	1782.9	882.0
4	90	4	9291.5	53918.3	94816.8	42463.0	480.3	920.5	357.0
4	10	5	9291.5	9299.8	9333.6	9223.7	0.1	0.5	-0.7
4	20	5	9291.5	9330.7	9474.5	9042.0	0.4	2.0	-2.7
4	30	5	9291.5	9414.8	9778.3	8805.0	1.3	5.2	-5.2
4	40	5	9291.5	9671.8	10368.8	8594.1	4.1	11.6	-7.5
4	50	5	9291.5	10242.8	11468.1	8529.0	10.2	23.4	-8.2
4	60	5	9291.5	11404.6	13543.3	8747.3	22.7	45.8	-5.9
4	70	5	9291.5	13706.2	17666.3	9478.9	47.5	90.1	2.0
4	80	5	9291.5	18488.0	27019.7	11179.2	99.0	190.8	20.3
4	90	5	9291.5	29636.5	52915.1	15039.1	219.0	469.5	61.9
4	10	6	9291.5	9298.9	9325.5	9246.8	0.1	0.4	-0.5
4	20	6	9291.5	9305.0	9402.9	9118.9	0.1	1.2	-1.9
4	30	6	9291.5	9338.4	9562.3	8929.3	0.5	2.9	-3.9
4	40	6	9291.5	9403.1	9833.1	8702.8	1.2	5.8	-6.3
4	50	6	9291.5	9571.6	10270.9	8482.1	3.0	10.5	-8.7
4	60	6	9291.5	9862.6	10959.9	8309.3	6.1	18.0	-10.6
4	70	6	9291.5	10384.1	12036.8	8228.0	11.8	29.5	-11.4
4	80	6	9291.5	11252.6	13770.6	8288.4	21.1	48.2	-10.8
4	90	6	9291.5	12671.0	16648.1	8568.5	36.4	79.2	-7.8
8	10	1	9291.5	427570400.0	3975572480.0	426629440.0	4601621.7	42786955.0	4591494.6
8	20	1	9291.5	38818684.0	64521240.0	38134692.0	417685.7	694309.1	410324.2
8	30	1	9291.5	4365092.0	5943646.5	4138245.5	46879.3	63868.4	44437.8
8	40	1	9291.5	824271.9	1128689.1	746596.8	8771.2	12047.5	7935.2
8	50	1	9291.5	219296.6	326234.4	188059.2	2260.2	3411.1	1924.0
8	60	1	9291.5	73004.4	124183.9	58684.2	685.7	1236.5	531.6
8	70	1	9291.5	28288.6	57738.8	21205.9	204.5	521.4	128.2
8	80	1	9291.5	12176.4	31367.1	8498.7	31.0	237.6	-8.5
8	90	1	9291.5	5637.3	19211.2	3669.0	-39.3	106.8	-60.5
8	10	2	9291.5	9299.0	9428.5	9056.2	0.1	1.5	-2.5
8	20	2	9291.5	9275.5	9836.9	8389.2	-0.2	5.9	-9.7
8	30	2	9291.5	9204.4	10531.7	7419.7	-0.9	13.3	-20.1
8	40	2	9291.5	9008.1	11517.5	6295.5	-3.1	24.0	-32.2
8	50	2	9291.5	8623.9	12739.7	5158.9	-7.2	37.1	-44.5
8	60	2	9291.5	7990.9	14061.4	4112.5	-14.0	51.3	-55.7
8	70	2	9291.5	7100.9	15099.5	3211.6	-23.6	62.5	-65.4
8	80	2	9291.5	6018.0	15188.0	2472.4	-35.2	63.5	-73.4

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
8	90	2	9291.5	4863.7	13882.0	1886.7	-47.7	49.4	-79.7
8	10	3	9291.5	663603968.0	32523110400.0	664116672.0	7141930.4	350029517.3	7147448.4
8	20	3	9291.5	174084512.0	532675488.0	171951776.0	1873482.6	5732814.1	1850529.1
8	30	3	9291.5	29307202.0	50694800.0	27739224.0	315318.4	545502.2	298443.1
8	40	3	9291.5	6152781.5	9980165.0	5499989.0	66119.2	107311.4	59093.6
8	50	3	9291.5	1692864.0	2972726.5	1413703.1	18119.4	31893.9	15115.0
8	60	3	9291.5	568254.3	1170997.9	439546.6	6015.8	12502.9	4630.6
8	70	3	9291.5	218947.3	569473.9	156293.8	2256.4	6029.0	1582.1
8	80	3	9291.5	92696.2	325156.9	61238.3	897.6	3399.5	559.1
8	90	3	9291.5	41785.1	210818.8	25683.9	349.7	2168.9	176.4
8	10	4	9291.5	655207040.0	29239715800.0	655927040.0	7051558.5	314692019.1	7059307.5
8	20	4	9291.5	165500064.0	455339648.0	164988000.0	1781092.6	4900487.9	1775581.5
8	30	4	9291.5	27209690.0	39739768.0	27014784.0	292744.0	427598.8	290646.3
8	40	4	9291.5	5703438.0	6939946.5	5631863.0	61283.2	74591.1	60512.9
8	50	4	9291.5	1589576.0	1774540.0	1555889.8	17007.8	18998.5	16645.2
8	60	4	9291.5	548679.3	580488.9	530603.4	5805.2	6147.5	5610.6
8	70	4	9291.5	221057.5	227368.6	211132.9	2279.1	2347.1	2172.3
8	80	4	9291.5	100171.0	104016.9	94319.3	978.1	1019.5	915.1
8	90	4	9291.5	49661.6	52161.8	46089.8	434.5	461.4	396.0
8	10	5	9291.5	9299.8	9333.9	9223.0	0.1	0.5	-0.7
8	20	5	9291.5	9329.8	9475.4	9038.8	0.4	2.0	-2.7
8	30	5	9291.5	9409.0	9777.3	8796.3	1.3	5.2	-5.3
8	40	5	9291.5	9656.3	10363.3	8575.0	3.9	11.5	-7.7
8	50	5	9291.5	10218.4	11446.1	8491.6	10.0	23.2	-8.6
8	60	5	9291.5	11334.3	13476.3	8677.3	22.0	45.0	-6.6
8	70	5	9291.5	13538.2	17475.0	9347.5	45.7	88.1	0.6
8	80	5	9291.5	18069.5	26420.7	10921.1	94.5	184.4	17.5
8	90	5	9291.5	28436.0	50656.5	14462.5	206.0	445.2	55.7
8	10	6	9291.5	9298.6	9325.4	9237.1	0.1	0.4	-0.6
8	20	6	9291.5	9298.2	9414.6	9075.0	0.1	1.3	-2.3
8	30	6	9291.5	9285.8	9560.7	8809.7	-0.1	2.9	-5.2
8	40	6	9291.5	9248.8	9760.3	8443.1	-0.5	5.0	-9.1
8	50	6	9291.5	9201.8	10005.9	7991.1	-1.0	7.7	-14.0
8	60	6	9291.5	9091.6	10275.5	7468.0	-2.2	10.6	-19.6
8	70	6	9291.5	8928.2	10552.1	6885.1	-3.9	13.6	-25.9
8	80	6	9291.5	8681.0	10807.7	6262.5	-6.6	16.3	-32.6
8	90	6	9291.5	8341.2	11000.4	5620.9	-10.2	18.4	-39.5
16	10	1	9291.5	427557376.0	3973261060.0	426561216.0	4601481.5	42762078.4	4590760.4
16	20	1	9291.5	38809744.0	64477468.0	38119264.0	417589.4	693838.0	410158.2
16	30	1	9291.5	4362590.5	5938551.5	4136672.5	46852.3	63813.6	44420.9
16	40	1	9291.5	823782.9	1127480.8	746399.4	8766.0	12034.5	7933.1
16	50	1	9291.5	219200.3	325787.8	188042.1	2259.1	3406.3	1923.8
16	60	1	9291.5	72977.0	123946.7	58691.8	685.4	1234.0	531.7
16	70	1	9291.5	28282.5	57612.7	21214.3	204.4	520.1	128.3
16	80	1	9291.5	12176.5	31279.0	8504.9	31.0	236.6	-8.5
16	90	1	9291.5	5639.0	19148.6	3673.1	-39.3	106.1	-60.5
16	10	2	9291.5	9299.0	9428.5	9056.2	0.1	1.5	-2.5
16	20	2	9291.5	9275.5	9836.9	8389.2	-0.2	5.9	-9.7

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
16	30	2	9291.5	9204.4	10531.7	7419.7	-0.9	13.3	-20.1
16	40	2	9291.5	9008.1	11517.5	6295.5	-3.1	24.0	-32.2
16	50	2	9291.5	8623.9	12739.7	5158.9	-7.2	37.1	-44.5
16	60	2	9291.5	7990.9	14061.4	4112.5	-14.0	51.3	-55.7
16	70	2	9291.5	7100.9	15099.5	3211.6	-23.6	62.5	-65.4
16	80	2	9291.5	6018.0	15188.0	2472.4	-35.2	63.5	-73.4
16	90	2	9291.5	4863.7	13882.0	1886.7	-47.7	49.4	-79.7
16	10	3	9291.5	663574208.0	32499204100.0	664054144.0	7141610.1	349772226.0	7146775.4
16	20	3	9291.5	174067072.0	532227968.0	171886816.0	1873294.9	5727997.6	1849830.0
16	30	3	9291.5	29287696.0	50643200.0	27726012.0	315108.5	544946.9	298300.9
16	40	3	9291.5	6149323.5	9967361.0	5497855.0	66082.0	107173.6	59070.6
16	50	3	9291.5	1691891.3	2967890.8	1413530.4	18109.0	31841.9	15113.1
16	60	3	9291.5	567992.3	1168545.9	439560.8	6013.0	12476.5	4630.8
16	70	3	9291.5	218887.5	568040.1	156342.6	2255.8	6013.5	1582.6
16	80	3	9291.5	92696.7	324134.2	61277.1	897.6	3388.5	559.5
16	90	3	9291.5	41801.0	210040.9	25708.4	349.9	2160.6	176.7
16	10	4	9291.5	657454272.0	29921542100.0	658026560.0	7075744.4	322030167.1	7081903.6
16	20	4	9291.5	167625280.0	467421856.0	167392224.0	1803965.2	5030522.6	1801457.0
16	30	4	9291.5	27734140.0	41003832.0	27696294.0	298388.4	441203.3	297981.1
16	40	4	9291.5	5831732.5	7212334.5	5822876.0	62664.0	77522.7	62568.6
16	50	4	9291.5	1622956.5	1859795.4	1622591.9	17367.1	19916.0	17363.1
16	60	4	9291.5	560201.9	614566.0	558994.4	5929.2	6514.3	5916.2
16	70	4	9291.5	225407.2	241291.3	225057.8	2325.9	2496.9	2322.2
16	80	4	9291.5	102383.7	107470.8	101894.0	1001.9	1056.7	996.6
16	90	4	9291.5	50720.0	52700.0	50530.8	445.9	467.2	443.8
16	10	5	9291.5	9299.8	9333.9	9223.0	0.1	0.5	-0.7
16	20	5	9291.5	9329.8	9475.4	9038.6	0.4	2.0	-2.7
16	30	5	9291.5	9408.7	9777.3	8795.7	1.3	5.2	-5.3
16	40	5	9291.5	9655.3	10363.0	8573.9	3.9	11.5	-7.7
16	50	5	9291.5	10216.6	11444.7	8489.3	10.0	23.2	-8.6
16	60	5	9291.5	11329.4	13472.0	8673.0	21.9	45.0	-6.7
16	70	5	9291.5	13527.6	17462.6	9339.5	45.6	87.9	0.5
16	80	5	9291.5	18043.2	26382.7	10905.2	94.2	183.9	17.4
16	90	5	9291.5	28361.9	50514.4	14427.3	205.2	443.7	55.3
16	10	6	9291.5	9298.7	9325.4	9238.8	0.1	0.4	-0.6
16	20	6	9291.5	9299.0	9412.2	9082.7	0.1	1.3	-2.2
16	30	6	9291.5	9295.6	9559.7	8829.9	0.0	2.9	-5.0
16	40	6	9291.5	9277.3	9769.4	8485.8	-0.2	5.1	-8.7
16	50	6	9291.5	9247.3	10044.1	8069.3	-0.5	8.1	-13.2
16	60	6	9291.5	9209.7	10374.8	7597.0	-0.9	11.7	-18.2
16	70	6	9291.5	9134.5	10762.2	7081.1	-1.7	15.8	-23.8
16	80	6	9291.5	9027.4	11203.9	6539.3	-2.8	20.6	-29.6
16	90	6	9291.5	8872.9	11679.7	5989.1	-4.5	25.7	-35.5

Table C- 4. Fatigue Life in Passes - Rigidly Clamped, High Sea State, 5 Knots

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	10	1	1167.9	43197.8	45421.4	39112.0	3598.8	3789.2	3248.9
1	20	1	1167.9	42425.6	52329.6	29682.9	3532.7	4380.7	2441.6
1	30	1	1167.9	39579.8	63867.1	20287.3	3289.0	5368.6	1637.1
1	40	1	1167.9	32707.8	69131.8	13468.0	2700.6	5819.4	1053.2
1	50	1	1167.9	21857.0	43924.0	9273.3	1771.5	3661.0	694.0
1	60	1	1167.9	11203.2	14549.3	6834.3	859.3	1145.8	485.2
1	70	1	1167.9	4537.3	5399.0	3821.4	288.5	362.3	227.2
1	80	1	1167.9	1600.4	4487.8	1047.4	37.0	284.3	-10.3
1	90	1	1167.9	532.6	3498.6	307.6	-54.4	199.6	-73.7
1	10	2	1167.9	1168.2	1186.5	1132.0	0.0	1.6	-3.1
1	20	2	1167.9	1167.0	1241.0	1034.1	-0.1	6.3	-11.5
1	30	2	1167.9	1164.1	1343.6	899.7	-0.3	15.0	-23.0
1	40	2	1167.9	1158.8	1505.9	755.7	-0.8	28.9	-35.3
1	50	2	1167.9	1147.1	1741.1	624.6	-1.8	49.1	-46.5
1	60	2	1167.9	1118.1	2028.1	515.1	-4.3	73.7	-55.9
1	70	2	1167.9	1050.1	2225.4	428.7	-10.1	90.6	-63.3
1	80	2	1167.9	916.3	1986.9	364.6	-21.5	70.1	-68.8
1	90	2	1167.9	709.2	1229.3	319.0	-39.3	5.3	-72.7
1	10	3	1167.9	43274.7	44257.1	41379.9	3605.4	3689.5	3443.1
1	20	3	1167.9	43509.4	47569.8	36690.3	3625.5	3973.1	3041.6
1	30	3	1167.9	44665.9	55213.4	31154.8	3724.5	4627.6	2567.6
1	40	3	1167.9	47856.1	71312.0	26553.9	3997.7	6006.1	2173.7
1	50	3	1167.9	53805.7	102261.7	23802.0	4507.1	8656.1	1938.0
1	60	3	1167.9	58666.7	125385.5	23360.5	4923.3	10636.1	1900.2
1	70	3	1167.9	46046.1	58209.8	25983.1	3842.7	4884.2	2124.8
1	80	3	1167.9	18619.7	31829.4	12717.9	1494.3	2625.4	989.0
1	90	3	1167.9	5135.7	35654.2	2852.0	339.7	2952.9	144.2
1	10	4	1167.9	43274.7	44257.1	41379.9	3605.4	3689.5	3443.1
1	20	4	1167.9	43509.4	47569.8	36690.3	3625.5	3973.1	3041.6
1	30	4	1167.9	44665.9	55213.4	31154.8	3724.5	4627.6	2567.6
1	40	4	1167.9	47856.1	71312.0	26553.9	3997.7	6006.1	2173.7
1	50	4	1167.9	53805.7	102261.7	23802.0	4507.1	8656.1	1938.0
1	60	4	1167.9	58666.7	125385.5	23360.5	4923.3	10636.1	1900.2
1	70	4	1167.9	46046.1	58209.8	25983.1	3842.7	4884.2	2124.8
1	80	4	1167.9	18619.7	31829.4	12717.9	1494.3	2625.4	989.0
1	90	4	1167.9	5135.7	35654.2	2852.0	339.7	2952.9	144.2
1	10	5	1167.9	1168.3	1180.3	1152.7	0.0	1.1	-1.3
1	20	5	1167.9	1173.3	1204.7	1112.4	0.5	3.2	-4.8
1	30	5	1167.9	1192.9	1266.0	1061.1	2.1	8.4	-9.1
1	40	5	1167.9	1249.3	1394.6	1017.4	7.0	19.4	-12.9
1	50	5	1167.9	1379.4	1658.8	1000.0	18.1	42.0	-14.4

[1] LOI – Location of interest.
[2] Percent change in fatigue life from "axial only ((fatigue life/axial only fatigue life – 1) x 100).

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	60	5	1167.9	1656.2	2219.8	1032.5	41.8	90.1	-11.6
1	70	5	1167.9	2233.9	3500.2	1151.0	91.3	199.7	-1.4
1	80	5	1167.9	3368.5	6295.4	1419.8	188.4	439.0	21.6
1	90	5	1167.9	4732.8	7011.8	1982.3	305.2	500.4	69.7
1	10	6	1167.9	1168.3	1180.3	1152.7	0.0	1.1	-1.3
1	20	6	1167.9	1173.3	1204.7	1112.4	0.5	3.2	-4.8
1	30	6	1167.9	1192.9	1266.0	1061.1	2.1	8.4	-9.1
1	40	6	1167.9	1249.3	1394.6	1017.4	7.0	19.4	-12.9
1	50	6	1167.9	1379.4	1658.8	1000.0	18.1	42.0	-14.4
1	60	6	1167.9	1656.2	2219.8	1032.5	41.8	90.1	-11.6
1	70	6	1167.9	2233.9	3500.2	1151.0	91.3	199.7	-1.4
1	80	6	1167.9	3368.5	6295.4	1419.8	188.4	439.0	21.6
1	90	6	1167.9	4732.8	7011.8	1982.3	305.2	500.4	69.7
2	10	1	1167.9	42944.1	46715.5	36558.6	3577.1	3900.0	3030.3
2	20	1	1167.9	39157.4	55402.1	22976.1	3252.8	4643.8	1867.3
2	30	1	1167.9	27819.0	55188.6	11982.5	2282.0	4625.5	926.0
2	40	1	1167.9	14248.7	30939.4	5806.9	1120.0	2549.2	397.2
2	50	1	1167.9	6019.4	10632.2	2856.5	415.4	810.4	144.6
2	60	1	1167.9	2467.7	3404.7	1475.4	111.3	191.5	26.3
2	70	1	1167.9	1056.6	1203.1	815.2	-9.5	3.0	-30.2
2	80	1	1167.9	479.6	489.3	465.8	-58.9	-58.1	-60.1
2	90	1	1167.9	230.9	306.4	199.3	-80.2	-73.8	-82.9
2	10	2	1167.9	1168.0	1188.4	1127.5	0.0	1.8	-3.5
2	20	2	1167.9	1161.8	1244.6	1016.0	-0.5	6.6	-13.0
2	30	2	1167.9	1139.2	1336.5	858.1	-2.5	14.4	-26.5
2	40	2	1167.9	1084.6	1443.3	685.0	-7.1	23.6	-41.4
2	50	2	1167.9	984.0	1532.0	522.6	-15.7	31.2	-55.3
2	60	2	1167.9	836.1	1521.3	385.1	-28.4	30.3	-67.0
2	70	2	1167.9	660.0	1361.7	276.7	-43.5	16.6	-76.3
2	80	2	1167.9	486.5	1068.3	196.4	-58.3	-8.5	-83.2
2	90	2	1167.9	340.1	739.7	138.9	-70.9	-36.7	-88.1
2	10	3	1167.9	43198.1	45029.4	39771.7	3598.8	3755.6	3305.4
2	20	3	1167.9	42305.3	50237.3	31300.8	3522.4	4201.6	2580.1
2	30	3	1167.9	39068.4	57689.1	21892.6	3245.2	4839.6	1774.5
2	40	3	1167.9	32090.8	61047.6	14270.1	2647.8	5127.2	1121.9
2	50	3	1167.9	22455.2	49592.4	9045.5	1822.7	4146.3	674.5
2	60	3	1167.9	13491.2	27150.0	5800.1	1055.2	2224.7	396.6
2	70	3	1167.9	7319.3	11443.5	3825.5	526.7	879.8	227.6
2	80	3	1167.9	3775.6	4572.5	2622.0	223.3	291.5	124.5
2	90	3	1167.9	1908.5	1966.9	1827.9	63.4	68.4	56.5
2	10	4	1167.9	43191.8	45044.7	39715.3	3598.3	3756.9	3300.6
2	20	4	1167.9	42219.4	50267.3	31108.7	3515.0	4204.1	2563.7
2	30	4	1167.9	38696.9	57437.1	21561.3	3213.4	4818.0	1746.2
2	40	4	1167.9	31272.5	59755.3	13870.9	2577.7	5016.5	1087.7
2	50	4	1167.9	21417.5	47220.1	8641.7	1733.9	3943.2	639.9
2	60	4	1167.9	12654.4	25708.0	5426.5	983.5	2101.2	364.6
2	70	4	1167.9	6836.5	11063.6	3507.4	485.4	847.3	200.3
2	80	4	1167.9	3565.7	4579.3	2353.5	205.3	292.1	101.5

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
2	90	4	1167.9	1851.9	1960.1	1650.7	58.6	67.8	41.3
2	10	5	1167.9	1168.3	1180.0	1155.5	0.0	1.0	-1.1
2	20	5	1167.9	1169.4	1195.3	1120.5	0.1	2.3	-4.1
2	30	5	1167.9	1176.5	1234.5	1070.0	0.7	5.7	-8.4
2	40	5	1167.9	1195.1	1303.3	1013.0	2.3	11.6	-13.3
2	50	5	1167.9	1236.1	1423.2	958.8	5.8	21.9	-17.9
2	60	5	1167.9	1315.0	1626.0	915.7	12.6	39.2	-21.6
2	70	5	1167.9	1454.9	1982.3	891.3	24.6	69.7	-23.7
2	80	5	1167.9	1689.7	2609.4	892.6	44.7	123.4	-23.6
2	90	5	1167.9	2053.5	3689.0	925.1	75.8	215.9	-20.8
2	10	6	1167.9	1168.2	1179.8	1156.0	0.0	1.0	-1.0
2	20	6	1167.9	1167.8	1191.6	1121.1	0.0	2.0	-4.0
2	30	6	1167.9	1165.5	1219.1	1065.8	-0.2	4.4	-8.7
2	40	6	1167.9	1159.6	1256.3	994.0	-0.7	7.6	-14.9
2	50	6	1167.9	1148.3	1303.3	910.5	-1.7	11.6	-22.0
2	60	6	1167.9	1129.3	1356.4	821.3	-3.3	16.1	-29.7
2	70	6	1167.9	1100.3	1410.2	732.0	-5.8	20.7	-37.3
2	80	6	1167.9	1059.8	1453.1	647.8	-9.3	24.4	-44.5
2	90	6	1167.9	1006.8	1481.5	572.0	-13.8	26.9	-51.0
3	10	1	1167.9	42946.7	46684.3	36606.5	3577.3	3897.3	3034.4
3	20	1	1167.9	39184.8	55280.0	23068.1	3255.2	4633.3	1875.2
3	30	1	1167.9	27896.5	55110.8	12045.6	2288.6	4618.8	931.4
3	40	1	1167.9	14329.8	31201.2	5820.4	1127.0	2571.6	398.4
3	50	1	1167.9	6066.2	10850.5	2837.9	419.4	829.1	143.0
3	60	1	1167.9	2488.5	3487.0	1440.0	113.1	198.6	23.3
3	70	1	1167.9	1064.2	1230.7	773.6	-8.9	5.4	-33.8
3	80	1	1167.9	481.1	491.8	438.5	-58.8	-57.9	-62.5
3	90	1	1167.9	228.2	262.0	194.9	-80.5	-77.6	-83.3
3	10	2	1167.9	1167.9	1188.5	1127.3	0.0	1.8	-3.5
3	20	2	1167.9	1161.7	1244.8	1015.3	-0.5	6.6	-13.1
3	30	2	1167.9	1138.5	1336.5	856.7	-2.5	14.4	-26.6
3	40	2	1167.9	1082.6	1442.1	682.7	-7.3	23.5	-41.5
3	50	2	1167.9	979.7	1527.3	519.6	-16.1	30.8	-55.5
3	60	2	1167.9	829.2	1510.2	381.6	-29.0	29.3	-67.3
3	70	2	1167.9	651.4	1343.3	272.9	-44.2	15.0	-76.6
3	80	2	1167.9	477.6	1048.9	192.7	-59.1	-10.2	-83.5
3	90	2	1167.9	332.3	724.4	135.3	-71.5	-38.0	-88.4
3	10	3	1167.9	43197.5	45017.0	39790.9	3598.8	3754.6	3307.1
3	20	3	1167.9	42293.1	50166.8	31343.5	3521.3	4195.5	2583.8
3	30	3	1167.9	39010.6	57469.8	21916.2	3240.3	4820.8	1776.6
3	40	3	1167.9	31953.2	60593.6	14232.2	2636.0	5088.3	1118.6
3	50	3	1167.9	22259.2	49186.3	8934.1	1805.9	4111.6	665.0
3	60	3	1167.9	13309.9	27069.3	5616.6	1039.7	2217.8	380.9
3	70	3	1167.9	7191.4	11459.6	3590.8	515.8	881.2	207.5
3	80	3	1167.9	3687.7	4546.9	2340.3	215.8	289.3	100.4
3	90	3	1167.9	1839.5	1919.8	1548.5	57.5	64.4	32.6
3	10	4	1167.9	43158.6	45086.1	39568.0	3595.4	3760.5	3288.0
3	20	4	1167.9	41775.1	50052.7	30496.2	3477.0	4185.7	2511.2

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
3	30	4	1167.9	36829.2	55119.9	20338.5	3053.5	4619.6	1641.5
3	40	4	1167.9	27439.7	52194.7	12221.1	2249.5	4369.1	946.4
3	50	4	1167.9	16947.6	36967.0	6895.0	1351.1	3065.3	490.4
3	60	4	1167.9	9200.1	19905.2	3809.1	687.8	1604.4	226.2
3	70	4	1167.9	4757.4	9442.8	2122.2	307.3	708.5	81.7
3	80	4	1167.9	2473.2	4485.5	1206.4	111.8	284.1	3.3
3	90	4	1167.9	1322.5	2236.5	709.1	13.2	91.5	-39.3
3	10	5	1167.9	1168.3	1180.0	1155.9	0.0	1.0	-1.0
3	20	5	1167.9	1170.0	1195.2	1122.6	0.2	2.3	-3.9
3	30	5	1167.9	1179.8	1236.3	1075.9	1.0	5.9	-7.9
3	40	5	1167.9	1205.7	1311.9	1026.1	3.2	12.3	-12.1
3	50	5	1167.9	1263.1	1450.5	983.7	8.1	24.2	-15.8
3	60	5	1167.9	1375.6	1699.0	958.9	17.8	45.5	-17.9
3	70	5	1167.9	1582.7	2165.7	961.7	35.5	85.4	-17.7
3	80	5	1167.9	1947.3	3049.1	1003.3	66.7	161.1	-14.1
3	90	5	1167.9	2524.7	4611.8	1092.8	116.2	294.9	-6.4
3	10	6	1167.9	1168.2	1179.7	1157.7	0.0	1.0	-0.9
3	20	6	1167.9	1166.9	1186.7	1127.2	-0.1	1.6	-3.5
3	30	6	1167.9	1160.0	1204.7	1075.7	-0.7	3.1	-7.9
3	40	6	1167.9	1142.6	1221.1	1003.3	-2.2	4.6	-14.1
3	50	6	1167.9	1107.6	1227.5	912.4	-5.2	5.1	-21.9
3	60	6	1167.9	1048.8	1214.2	806.8	-10.2	4.0	-30.9
3	70	6	1167.9	962.3	1163.0	694.1	-17.6	-0.4	-40.6
3	80	6	1167.9	849.4	1066.4	582.2	-27.3	-8.7	-50.1
3	90	6	1167.9	716.6	921.1	478.1	-38.6	-21.1	-59.1
4	10	1	1167.9	42944.8	46680.0	36607.9	3577.1	3897.0	3034.5
4	20	1	1167.9	39158.3	55228.4	23059.4	3252.9	4628.9	1874.5
4	30	1	1167.9	27822.4	54924.6	12019.1	2282.3	4602.9	929.1
4	40	1	1167.9	14256.1	31088.5	5785.1	1120.7	2561.9	395.3
4	50	1	1167.9	6027.0	10847.1	2803.4	416.1	828.8	140.0
4	60	1	1167.9	2472.9	3511.7	1410.7	111.7	200.7	20.8
4	70	1	1167.9	1058.9	1246.3	748.7	-9.3	6.7	-35.9
4	80	1	1167.9	479.7	491.1	418.3	-58.9	-57.9	-64.2
4	90	1	1167.9	227.9	251.3	198.1	-80.5	-78.5	-83.0
4	10	2	1167.9	1168.0	1188.4	1127.5	0.0	1.8	-3.5
4	20	2	1167.9	1161.9	1244.6	1016.0	-0.5	6.6	-13.0
4	30	2	1167.9	1139.3	1336.6	858.1	-2.5	14.4	-26.5
4	40	2	1167.9	1084.9	1443.8	685.0	-7.1	23.6	-41.3
4	50	2	1167.9	984.5	1533.0	522.6	-15.7	31.3	-55.3
4	60	2	1167.9	836.7	1523.7	385.0	-28.4	30.5	-67.0
4	70	2	1167.9	660.4	1362.8	276.2	-43.5	16.7	-76.4
4	80	2	1167.9	486.4	1071.9	195.6	-58.4	-8.2	-83.3
4	90	2	1167.9	339.6	738.7	137.7	-70.9	-36.7	-88.2
4	10	3	1167.9	43196.4	45013.7	39793.5	3598.7	3754.3	3307.3
4	20	3	1167.9	42275.8	50134.8	31340.9	3519.8	4192.8	2583.6
4	30	3	1167.9	38933.1	57320.6	21888.2	3233.6	4808.1	1774.2
4	40	3	1167.9	31781.7	60162.5	14169.1	2621.3	5051.4	1113.2
4	50	3	1167.9	22040.4	48680.1	8842.1	1787.2	4068.2	657.1

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
4	60	3	1167.9	13133.1	26881.3	5506.9	1024.5	2201.7	371.5
4	70	3	1167.9	7088.9	11485.2	3473.4	507.0	883.4	197.4
4	80	3	1167.9	3640.8	4603.3	2224.4	211.7	294.2	90.5
4	90	3	1167.9	1821.0	1898.1	1434.1	55.9	62.5	22.8
4	10	4	1167.9	43187.1	44987.0	39813.7	3597.9	3752.0	3309.0
4	20	4	1167.9	42132.0	49873.8	31319.5	3507.5	4170.4	2581.7
4	30	4	1167.9	38311.3	56008.0	21677.6	3180.4	4695.7	1756.1
4	40	4	1167.9	30453.2	56835.7	13732.6	2507.5	4766.5	1075.8
4	50	4	1167.9	20439.7	44686.6	8263.4	1650.1	3726.3	607.5
4	60	4	1167.9	11919.3	25515.7	4889.6	920.6	2084.8	318.7
4	70	4	1167.9	6447.8	11933.4	2907.9	452.1	921.8	149.0
4	80	4	1167.9	3421.1	5354.5	1749.4	192.9	358.5	49.8
4	90	4	1167.9	1834.2	2461.0	1068.5	57.0	110.7	-8.5
4	10	5	1167.9	1168.3	1180.0	1156.2	0.0	1.0	-1.0
4	20	5	1167.9	1170.3	1194.8	1123.9	0.2	2.3	-3.8
4	30	5	1167.9	1181.1	1236.1	1079.3	1.1	5.8	-7.6
4	40	5	1167.9	1209.6	1313.4	1033.0	3.6	12.5	-11.6
4	50	5	1167.9	1273.0	1457.6	996.0	9.0	24.8	-14.7
4	60	5	1167.9	1398.4	1721.9	978.9	19.7	47.4	-16.2
4	70	5	1167.9	1632.3	2229.3	993.1	39.8	90.9	-15.0
4	80	5	1167.9	2050.9	3211.0	1051.4	75.6	174.9	-10.0
4	90	5	1167.9	2712.3	4936.7	1164.9	132.2	322.7	-0.3
4	10	6	1167.9	1168.2	1179.8	1160.1	0.0	1.0	-0.7
4	20	6	1167.9	1168.5	1184.7	1137.9	0.1	1.4	-2.6
4	30	6	1167.9	1171.7	1207.3	1104.0	0.3	3.4	-5.5
4	40	6	1167.9	1179.5	1244.0	1062.3	1.0	6.5	-9.0
4	50	6	1167.9	1196.2	1302.2	1016.8	2.4	11.5	-12.9
4	60	6	1167.9	1227.2	1394.7	970.5	5.1	19.4	-16.9
4	70	6	1167.9	1279.8	1540.6	924.9	9.6	31.9	-20.8
4	80	6	1167.9	1361.4	1768.1	879.9	16.6	51.4	-24.7
4	90	6	1167.9	1475.5	2122.4	832.0	26.3	81.7	-28.8
8	10	1	1167.9	42941.4	46686.8	36591.0	3576.8	3897.5	3033.1
8	20	1	1167.9	39114.3	55210.6	23012.4	3249.1	4627.4	1870.4
8	30	1	1167.9	27696.9	54710.2	11959.9	2271.5	4584.5	924.1
8	40	1	1167.9	14129.0	30828.9	5732.9	1109.8	2539.7	390.9
8	50	1	1167.9	5956.8	10746.6	2763.7	410.1	820.2	136.6
8	60	1	1167.9	2442.8	3500.7	1382.8	109.2	199.7	18.4
8	70	1	1167.9	1047.5	1246.6	729.1	-10.3	6.7	-37.6
8	80	1	1167.9	476.1	490.6	404.5	-59.2	-58.0	-65.4
8	90	1	1167.9	227.4	244.6	201.4	-80.5	-79.1	-82.8
8	10	2	1167.9	1168.0	1188.4	1127.5	0.0	1.8	-3.5
8	20	2	1167.9	1161.9	1244.6	1016.0	-0.5	6.6	-13.0
8	30	2	1167.9	1139.2	1336.6	858.1	-2.5	14.4	-26.5
8	40	2	1167.9	1084.7	1443.6	684.9	-7.1	23.6	-41.4
8	50	2	1167.9	984.1	1532.7	522.4	-15.7	31.2	-55.3
8	60	2	1167.9	836.1	1522.6	384.7	-28.4	30.4	-67.1
8	70	2	1167.9	659.7	1362.0	275.9	-43.5	16.6	-76.4
8	80	2	1167.9	485.8	1070.4	195.4	-58.4	-8.4	-83.3

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
8	90	2	1167.9	339.1	737.9	137.5	-71.0	-36.8	-88.2
8	10	3	1167.9	43194.7	45018.4	39781.0	3598.5	3754.7	3306.2
8	20	3	1167.9	42251.2	50134.9	31294.9	3517.7	4192.8	2579.6
8	30	3	1167.9	38825.2	57216.6	21803.1	3224.4	4799.1	1766.9
8	40	3	1167.9	31542.7	59761.7	14056.9	2600.8	5017.1	1103.6
8	50	3	1167.9	21736.3	47963.6	8721.9	1761.2	4006.9	646.8
8	60	3	1167.9	12886.6	26503.4	5391.2	1003.4	2169.3	361.6
8	70	3	1167.9	6945.4	11373.1	3370.5	494.7	873.8	188.6
8	80	3	1167.9	3577.8	4616.0	2137.2	206.3	295.2	83.0
8	90	3	1167.9	1803.0	1902.1	1363.4	54.4	62.9	16.7
8	10	4	1167.9	43170.6	45043.7	39665.6	3596.5	3756.8	3296.3
8	20	4	1167.9	41921.5	49984.9	30820.4	3489.5	4179.9	2539.0
8	30	4	1167.9	37429.0	55536.0	20860.0	3104.8	4655.2	1686.1
8	40	4	1167.9	28620.4	54039.4	12798.4	2350.6	4527.1	995.9
8	50	4	1167.9	18260.4	39930.3	7399.9	1463.5	3319.0	533.6
8	60	4	1167.9	10190.6	22004.6	4194.5	772.6	1784.1	259.2
8	70	4	1167.9	5368.4	10394.4	2386.9	359.7	790.0	104.4
8	80	4	1167.9	2825.3	4861.5	1381.4	141.9	316.3	18.3
8	90	4	1167.9	1528.9	2406.8	818.2	30.9	106.1	-29.9
8	10	5	1167.9	1168.3	1180.0	1156.1	0.0	1.0	-1.0
8	20	5	1167.9	1170.2	1195.0	1123.4	0.2	2.3	-3.8
8	30	5	1167.9	1180.6	1236.2	1078.0	1.1	5.8	-7.7
8	40	5	1167.9	1208.0	1312.7	1030.3	3.4	12.4	-11.8
8	50	5	1167.9	1269.0	1454.7	991.2	8.7	24.6	-15.1
8	60	5	1167.9	1389.3	1712.6	971.1	19.0	46.6	-16.8
8	70	5	1167.9	1612.4	2203.4	980.7	38.1	88.7	-16.0
8	80	5	1167.9	2009.2	3145.9	1032.2	72.0	169.4	-11.6
8	90	5	1167.9	2636.8	4798.6	1135.6	125.8	310.9	-2.8
8	10	6	1167.9	1168.2	1179.8	1158.4	0.0	1.0	-0.8
8	20	6	1167.9	1167.9	1186.4	1130.8	0.0	1.6	-3.2
8	30	6	1167.9	1165.7	1207.5	1085.9	-0.2	3.4	-7.0
8	40	6	1167.9	1159.8	1234.6	1025.8	-0.7	5.7	-12.2
8	50	6	1167.9	1148.3	1266.6	953.5	-1.7	8.4	-18.4
8	60	6	1167.9	1128.6	1302.2	871.8	-3.4	11.5	-25.4
8	70	6	1167.9	1098.0	1333.9	785.3	-6.0	14.2	-32.8
8	80	6	1167.9	1054.4	1356.2	697.6	-9.7	16.1	-40.3
8	90	6	1167.9	996.7	1359.0	612.8	-14.7	16.4	-47.5
16	10	1	1167.9	42941.1	46687.3	36589.7	3576.8	3897.6	3033.0
16	20	1	1167.9	39111.5	55210.3	23009.0	3248.9	4627.4	1870.1
16	30	1	1167.9	27689.2	54697.8	11956.0	2270.9	4583.5	923.7
16	40	1	1167.9	14121.1	30811.5	5729.8	1109.1	2538.2	390.6
16	50	1	1167.9	5952.4	10740.0	2761.5	409.7	819.6	136.5
16	60	1	1167.9	2440.9	3499.3	1381.4	109.0	199.6	18.3
16	70	1	1167.9	1046.8	1246.4	728.2	-10.4	6.7	-37.6
16	80	1	1167.9	475.9	490.7	403.9	-59.3	-58.0	-65.4
16	90	1	1167.9	227.4	244.3	201.6	-80.5	-79.1	-82.7
16	10	2	1167.9	1168.0	1188.4	1127.5	0.0	1.8	-3.5
16	20	2	1167.9	1161.8	1244.6	1016.0	-0.5	6.6	-13.0

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
16	30	2	1167.9	1139.2	1336.6	858.0	-2.5	14.4	-26.5
16	40	2	1167.9	1084.7	1443.5	684.9	-7.1	23.6	-41.4
16	50	2	1167.9	984.0	1532.5	522.4	-15.7	31.2	-55.3
16	60	2	1167.9	835.9	1522.3	384.6	-28.4	30.3	-67.1
16	70	2	1167.9	659.5	1361.5	275.8	-43.5	16.6	-76.4
16	80	2	1167.9	485.5	1069.8	195.3	-58.4	-8.4	-83.3
16	90	2	1167.9	338.9	737.5	137.5	-71.0	-36.8	-88.2
16	10	3	1167.9	43194.6	45018.9	39780.0	3598.5	3754.7	3306.1
16	20	3	1167.9	42249.9	50135.8	31291.7	3517.6	4192.9	2579.3
16	30	3	1167.9	38819.6	57217.3	21797.8	3223.9	4799.2	1766.4
16	40	3	1167.9	31530.4	59743.8	14050.7	2599.8	5015.5	1103.1
16	50	3	1167.9	21720.9	47929.8	8716.0	1759.8	4004.0	646.3
16	60	3	1167.9	12874.0	26479.7	5386.0	1002.3	2167.3	361.2
16	70	3	1167.9	6938.1	11365.7	3366.0	494.1	873.2	188.2
16	80	3	1167.9	3574.6	4616.1	2134.1	206.1	295.3	82.7
16	90	3	1167.9	1802.2	1902.6	1361.4	54.3	62.9	16.6
16	10	4	1167.9	43173.4	45031.9	39690.7	3596.7	3755.8	3298.5
16	20	4	1167.9	41956.2	49961.4	30907.2	3492.5	4177.9	2546.4
16	30	4	1167.9	37571.8	55609.8	20994.4	3117.1	4661.6	1697.6
16	40	4	1167.9	28909.2	54473.7	12947.0	2375.3	4564.3	1008.6
16	50	4	1167.9	18593.2	40654.1	7534.4	1492.0	3381.0	545.1
16	60	4	1167.9	10448.7	22479.2	4295.0	794.7	1824.8	267.8
16	70	4	1167.9	5529.1	10635.2	2460.1	373.4	810.6	110.6
16	80	4	1167.9	2916.3	4963.6	1431.5	149.7	325.0	22.6
16	90	4	1167.9	1578.9	2433.6	851.3	35.2	108.4	-27.1
16	10	5	1167.9	1168.3	1180.0	1156.1	0.0	1.0	-1.0
16	20	5	1167.9	1170.2	1195.0	1123.4	0.2	2.3	-3.8
16	30	5	1167.9	1180.6	1236.2	1077.9	1.1	5.8	-7.7
16	40	5	1167.9	1207.9	1312.6	1030.2	3.4	12.4	-11.8
16	50	5	1167.9	1268.7	1454.3	990.9	8.6	24.5	-15.2
16	60	5	1167.9	1388.6	1711.8	970.6	18.9	46.6	-16.9
16	70	5	1167.9	1610.9	2201.1	979.9	37.9	88.5	-16.1
16	80	5	1167.9	2005.9	3140.4	1030.9	71.8	168.9	-11.7
16	90	5	1167.9	2630.8	4789.8	1133.6	125.3	310.1	-2.9
16	10	6	1167.9	1168.2	1179.8	1158.7	0.0	1.0	-0.8
16	20	6	1167.9	1168.0	1186.1	1132.1	0.0	1.6	-3.1
16	30	6	1167.9	1166.7	1207.3	1089.0	-0.1	3.4	-6.8
16	40	6	1167.9	1162.8	1235.7	1031.9	-0.4	5.8	-11.6
16	50	6	1167.9	1155.7	1271.4	963.8	-1.0	8.9	-17.5
16	60	6	1167.9	1143.4	1316.3	887.3	-2.1	12.7	-24.0
16	70	6	1167.9	1124.3	1363.2	806.0	-3.7	16.7	-31.0
16	80	6	1167.9	1096.6	1412.6	723.5	-6.1	21.0	-38.1
16	90	6	1167.9	1058.5	1455.2	642.5	-9.4	24.6	-45.0

Table C- 5. Fatigue Life in Passes - Rigidly Clamped, Medium Sea State, 15 Knots

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	10	1	976.8	36152.2	37831.2	33102.9	3601.1	3773.0	3289.0
1	20	1	976.8	36040.5	43414.5	26073.9	3589.7	4344.6	2569.4
1	30	1	976.8	35519.7	55002.2	18930.9	3536.4	5530.9	1838.1
1	40	1	976.8	33683.8	72918.8	13733.4	3348.4	7365.2	1306.0
1	50	1	976.8	28213.2	70277.8	10673.2	2788.4	7094.8	992.7
1	60	1	976.8	17878.3	27562.8	9461.0	1730.3	2721.8	868.6
1	70	1	976.8	7706.1	10238.6	6408.2	688.9	948.2	556.0
1	80	1	976.8	2508.1	14347.3	1532.3	156.8	1368.8	56.9
1	90	1	976.8	746.8	21815.2	412.1	-23.5	2133.4	-57.8
1	10	2	976.8	976.4	990.2	950.0	0.0	1.4	-2.7
1	20	2	976.8	977.4	1033.3	877.7	0.1	5.8	-10.1
1	30	2	976.8	981.6	1113.9	778.0	0.5	14.0	-20.4
1	40	2	976.8	991.6	1251.5	671.9	1.5	28.1	-31.2
1	50	2	976.8	1012.5	1474.8	575.0	3.7	51.0	-41.1
1	60	2	976.8	1046.0	1833.9	496.4	7.1	87.7	-49.2
1	70	2	976.8	1084.1	2350.7	439.8	11.0	140.7	-55.0
1	80	2	976.8	1093.6	2744.8	406.5	12.0	181.0	-58.4
1	90	2	976.8	1007.2	2244.1	397.8	3.1	129.7	-59.3
1	10	3	976.8	36177.0	36906.6	34778.7	3603.7	3678.4	3460.5
1	20	3	976.8	36532.1	39575.2	31335.1	3640.0	3951.6	3108.0
1	30	3	976.8	37956.1	45809.0	27380.8	3785.8	4589.8	2703.2
1	40	3	976.8	42077.0	60244.7	24357.8	4207.7	6067.6	2393.7
1	50	3	976.8	51667.9	96115.1	23345.9	5189.6	9739.9	2290.1
1	60	3	976.8	69085.9	169575.4	25853.7	6972.8	17260.5	2546.8
1	70	3	976.8	74469.6	115388.9	36432.7	7523.9	11713.1	3629.9
1	80	3	976.8	32153.5	78242.0	21132.8	3191.8	7910.2	2063.5
1	90	3	976.8	7432.2	242145.5	4015.7	660.9	24690.0	311.1
1	10	4	976.8	36177.0	36906.6	34778.7	3603.7	3678.4	3460.5
1	20	4	976.8	36532.1	39575.2	31335.1	3640.0	3951.6	3108.0
1	30	4	976.8	37956.1	45809.0	27380.8	3785.8	4589.8	2703.2
1	40	4	976.8	42077.0	60244.7	24357.8	4207.7	6067.6	2393.7
1	50	4	976.8	51667.9	96115.1	23345.9	5189.6	9739.9	2290.1
1	60	4	976.8	69085.9	169575.4	25853.7	6972.8	17260.5	2546.8
1	70	4	976.8	74469.6	115388.9	36432.7	7523.9	11713.1	3629.9
1	80	4	976.8	32153.5	78242.0	21132.8	3191.8	7910.2	2063.5
1	90	4	976.8	7432.2	242145.5	4015.7	660.9	24690.0	311.1
1	10	5	976.8	976.5	982.7	965.4	0.0	0.6	-1.2
1	20	5	976.8	982.2	1004.2	935.9	0.6	2.8	-4.2
1	30	5	976.8	999.7	1054.2	900.2	2.4	7.9	-7.8
1	40	5	976.8	1050.3	1158.6	873.4	7.5	18.6	-10.6
1	50	5	976.8	1168.5	1374.7	874.8	19.6	40.7	-10.4

[1] LOI – Location of interest.

[2] Percent change in fatigue life from "axial only ((fatigue life/axial only fatigue life – 1) x 100).

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	60	5	976.8	1427.6	1852.1	930.8	46.1	89.6	-4.7
1	70	5	976.8	2015.8	3045.9	1092.3	106.4	211.8	11.8
1	80	5	976.8	3459.7	6524.0	1496.5	254.2	567.9	53.2
1	90	5	976.8	6653.1	12589.2	2626.4	581.1	1188.8	168.9
1	10	6	976.8	976.5	982.7	965.4	0.0	0.6	-1.2
1	20	6	976.8	982.2	1004.2	935.9	0.6	2.8	-4.2
1	30	6	976.8	999.7	1054.2	900.2	2.4	7.9	-7.8
1	40	6	976.8	1050.3	1158.6	873.4	7.5	18.6	-10.6
1	50	6	976.8	1168.5	1374.7	874.8	19.6	40.7	-10.4
1	60	6	976.8	1427.6	1852.1	930.8	46.1	89.6	-4.7
1	70	6	976.8	2015.8	3045.9	1092.3	106.4	211.8	11.8
1	80	6	976.8	3459.7	6524.0	1496.5	254.2	567.9	53.2
1	90	6	976.8	6653.1	12589.2	2626.4	581.1	1188.8	168.9
2	10	1	976.8	36045.8	38856.1	31182.5	3590.2	3878.0	3092.4
2	20	1	976.8	34032.7	46521.5	20820.8	3384.2	4662.7	2031.6
2	30	1	976.8	27269.9	53727.4	11855.4	2691.8	5400.4	1113.7
2	40	1	976.8	16918.6	42548.8	6362.5	1632.1	4256.0	551.4
2	50	1	976.8	8462.3	18983.4	3453.4	766.3	1843.5	253.5
2	60	1	976.8	3846.2	6367.6	1976.0	293.8	551.9	102.3
2	70	1	976.8	1731.6	2143.9	1214.4	77.3	119.5	24.3
2	80	1	976.8	799.5	808.9	785.0	-18.2	-17.2	-19.6
2	90	1	976.8	380.9	584.3	314.6	-61.0	-40.2	-67.8
2	10	2	976.8	976.3	991.4	946.7	-0.1	1.5	-3.1
2	20	2	976.8	974.5	1036.0	863.8	-0.2	6.1	-11.6
2	30	2	976.8	962.1	1107.7	745.2	-1.5	13.4	-23.7
2	40	2	976.8	931.9	1204.0	612.5	-4.6	23.3	-37.3
2	50	2	976.8	873.9	1305.0	483.7	-10.5	33.6	-50.5
2	60	2	976.8	783.0	1381.2	370.6	-19.8	41.4	-62.1
2	70	2	976.8	663.7	1379.7	278.2	-32.1	41.2	-71.5
2	80	2	976.8	530.8	1252.8	206.2	-45.7	28.3	-78.9
2	90	2	976.8	402.9	1012.2	151.7	-58.8	3.6	-84.5
2	10	3	976.8	36131.9	37516.7	33589.4	3599.1	3740.8	3338.8
2	20	3	976.8	35775.4	41631.1	27260.0	3562.6	4162.1	2690.8
2	30	3	976.8	34263.8	48673.2	20026.5	3407.8	4883.0	1950.2
2	40	3	976.8	30696.3	57147.9	13919.4	3042.6	5750.6	1325.0
2	50	3	976.8	24743.5	58959.0	9550.0	2433.2	5936.0	877.7
2	60	3	976.8	17503.7	43482.7	6667.3	1692.0	4351.6	582.6
2	70	3	976.8	10904.1	21308.7	4872.1	1016.3	2081.5	398.8
2	80	3	976.8	6130.4	8370.0	3773.6	527.6	756.9	286.3
2	90	3	976.8	3201.5	3239.5	3144.7	227.8	231.6	221.9
2	10	4	976.8	36128.9	37530.4	33547.2	3598.8	3742.2	3334.4
2	20	4	976.8	35713.2	41667.7	27109.9	3556.2	4165.8	2675.4
2	30	4	976.8	33978.7	48514.4	19750.9	3378.6	4866.7	1922.0
2	40	4	976.8	29970.8	56071.8	13541.4	2968.3	5640.4	1286.3
2	50	4	976.8	23583.5	56158.1	9111.8	2314.4	5649.3	832.8
2	60	4	976.8	16283.8	40601.5	6197.0	1567.1	4056.6	534.4
2	70	4	976.8	10024.4	20410.4	4381.4	926.3	1989.5	348.5
2	80	4	976.8	5688.8	8454.8	3257.6	482.4	765.6	233.5

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
2	90	4	976.8	3072.7	3392.6	2583.6	214.6	247.3	164.5
2	10	5	976.8	976.4	981.4	967.4	0.0	0.5	-1.0
2	20	5	976.8	977.8	996.7	941.6	0.1	2.0	-3.6
2	30	5	976.8	984.7	1028.0	905.2	0.8	5.2	-7.3
2	40	5	976.8	1002.9	1083.7	864.6	2.7	10.9	-11.5
2	50	5	976.8	1042.0	1180.3	829.0	6.7	20.8	-15.1
2	60	5	976.8	1117.7	1348.4	806.3	14.4	38.0	-17.5
2	70	5	976.8	1256.1	1652.5	805.1	28.6	69.2	-17.6
2	80	5	976.8	1505.4	2229.4	836.7	54.1	128.2	-14.3
2	90	5	976.8	1953.5	3399.9	920.4	100.0	248.1	-5.8
2	10	6	976.8	976.3	981.3	967.8	0.0	0.5	-0.9
2	20	6	976.8	976.3	993.8	941.9	-0.1	1.7	-3.6
2	30	6	976.8	975.9	1015.4	900.9	-0.1	4.0	-7.8
2	40	6	976.8	973.0	1045.2	847.0	-0.4	7.0	-13.3
2	50	6	976.8	966.9	1082.5	784.3	-1.0	10.8	-19.7
2	60	6	976.8	956.3	1125.9	716.1	-2.1	15.3	-26.7
2	70	6	976.8	939.8	1173.9	646.0	-3.8	20.2	-33.9
2	80	6	976.8	916.0	1222.5	578.0	-6.2	25.2	-40.8
2	90	6	976.8	883.9	1265.5	514.3	-9.5	29.6	-47.3
3	10	1	976.8	36046.4	38830.4	31218.3	3590.3	3875.3	3096.0
3	20	1	976.8	34035.9	46399.2	20891.2	3384.5	4650.2	2038.8
3	30	1	976.8	27280.9	53474.4	11903.9	2692.9	5374.5	1118.7
3	40	1	976.8	16937.8	42543.4	6368.5	1634.0	4255.4	552.0
3	50	1	976.8	8482.6	19266.1	3424.7	768.4	1872.4	250.6
3	60	1	976.8	3863.5	6541.5	1927.6	295.5	569.7	97.3
3	70	1	976.8	1743.6	2223.6	1152.7	78.5	127.6	18.0
3	80	1	976.8	806.0	814.9	736.3	-17.5	-16.6	-24.6
3	90	1	976.8	382.6	501.0	318.2	-60.8	-48.7	-67.4
3	10	2	976.8	976.3	991.5	946.6	-0.1	1.5	-3.1
3	20	2	976.8	974.4	1036.2	863.3	-0.2	6.1	-11.6
3	30	2	976.8	961.5	1107.7	744.1	-1.6	13.4	-23.8
3	40	2	976.8	930.2	1203.0	610.6	-4.8	23.2	-37.5
3	50	2	976.8	870.3	1301.3	481.0	-10.9	33.2	-50.8
3	60	2	976.8	776.8	1371.4	367.3	-20.5	40.4	-62.4
3	70	2	976.8	655.1	1362.1	274.5	-32.9	39.4	-71.9
3	80	2	976.8	520.8	1228.0	202.3	-46.7	25.7	-79.3
3	90	2	976.8	392.7	986.9	147.8	-59.8	1.0	-84.9
3	10	3	976.8	36131.1	37507.0	33603.6	3599.0	3739.8	3340.2
3	20	3	976.8	35760.6	41572.4	27290.7	3561.0	4156.0	2693.9
3	30	3	976.8	34193.8	48453.4	20039.9	3400.6	4860.5	1951.6
3	40	3	976.8	30511.7	56544.9	13879.7	3023.7	5688.9	1321.0
3	50	3	976.8	24435.5	58006.3	9437.5	2401.6	5838.5	866.2
3	60	3	976.8	17165.1	42955.7	6482.6	1657.3	4297.7	563.7
3	70	3	976.8	10650.7	21426.3	4597.5	990.4	2093.5	370.7
3	80	3	976.8	5988.4	8437.1	3398.2	513.1	763.8	247.9
3	90	3	976.8	3121.8	3183.6	2641.6	219.6	225.9	170.4
3	10	4	976.8	36113.8	37560.2	33435.1	3597.2	3745.3	3323.0
3	20	4	976.8	35361.0	41491.1	26617.0	3520.1	4147.7	2625.0

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
3	30	4	976.8	32402.1	46632.6	18667.4	3217.2	4674.1	1811.1
3	40	4	976.8	26236.6	48798.5	11909.1	2586.0	4895.8	1119.2
3	50	4	976.8	18174.6	41889.6	7161.6	1760.7	4188.5	633.2
3	60	4	976.8	11015.2	27642.2	4171.1	1027.7	2729.9	327.0
3	70	4	976.8	6185.2	15146.4	2408.8	533.2	1450.6	146.6
3	80	4	976.8	3390.1	7723.5	1403.1	247.1	690.7	43.6
3	90	4	976.8	1868.8	3953.1	830.5	91.3	304.7	-15.0
3	10	5	976.8	976.4	981.4	967.7	0.0	0.5	-0.9
3	20	5	976.8	978.3	996.7	943.2	0.2	2.0	-3.4
3	30	5	976.8	987.7	1029.5	909.8	1.1	5.4	-6.9
3	40	5	976.8	1011.7	1090.8	875.3	3.6	11.7	-10.4
3	50	5	976.8	1064.5	1202.7	850.5	9.0	23.1	-12.9
3	60	5	976.8	1169.2	1408.3	845.3	19.7	44.2	-13.5
3	70	5	976.8	1368.8	1805.7	873.1	40.1	84.9	-10.6
3	80	5	976.8	1751.9	2634.6	954.4	79.4	169.7	-2.3
3	90	5	976.8	2494.2	4474.7	1130.7	155.3	358.1	15.8
3	10	6	976.8	976.3	981.2	969.2	-0.1	0.4	-0.8
3	20	6	976.8	976.0	990.0	946.4	-0.1	1.4	-3.1
3	30	6	976.8	970.1	1003.9	907.6	-0.7	2.8	-7.1
3	40	6	976.8	958.1	1016.6	852.5	-1.9	4.1	-12.7
3	50	6	976.8	930.7	1021.5	781.4	-4.7	4.6	-20.0
3	60	6	976.8	884.8	1008.5	696.8	-9.4	3.2	-28.7
3	70	6	976.8	815.9	969.3	603.4	-16.5	-0.8	-38.2
3	80	6	976.8	724.5	895.5	506.8	-25.8	-8.3	-48.1
3	90	6	976.8	615.5	784.6	413.3	-37.0	-19.7	-57.7
4	10	1	976.8	36044.7	38826.9	31219.1	3590.1	3875.0	3096.1
4	20	1	976.8	34011.4	46354.2	20882.4	3382.0	4645.6	2037.9
4	30	1	976.8	27196.2	53255.0	11875.2	2684.3	5352.1	1115.7
4	40	1	976.8	16821.7	42224.8	6326.2	1622.2	4222.8	547.7
4	50	1	976.8	8400.8	19201.7	3377.9	760.0	1865.8	245.8
4	60	1	976.8	3825.2	6585.8	1880.9	291.6	574.2	92.6
4	70	1	976.8	1730.5	2261.0	1108.1	77.2	131.5	13.4
4	80	1	976.8	803.4	834.8	693.6	-17.8	-14.5	-29.0
4	90	1	976.8	383.8	459.1	328.1	-60.7	-53.0	-66.4
4	10	2	976.8	976.3	991.4	946.7	-0.1	1.5	-3.1
4	20	2	976.8	974.5	1036.0	863.9	-0.2	6.1	-11.6
4	30	2	976.8	962.2	1107.8	745.3	-1.5	13.4	-23.7
4	40	2	976.8	932.1	1204.3	612.6	-4.6	23.3	-37.3
4	50	2	976.8	874.4	1306.0	483.8	-10.5	33.7	-50.5
4	60	2	976.8	783.7	1383.2	370.7	-19.8	41.6	-62.1
4	70	2	976.8	664.6	1383.4	278.1	-32.0	41.6	-71.5
4	80	2	976.8	531.6	1257.7	206.0	-45.6	28.8	-78.9
4	90	2	976.8	403.3	1016.7	151.2	-58.7	4.1	-84.5
4	10	3	976.8	36130.2	37504.4	33605.4	3598.9	3739.6	3340.4
4	20	3	976.8	35744.9	41546.1	27287.3	3559.4	4153.3	2693.6
4	30	3	976.8	34120.7	48315.2	20012.1	3393.2	4846.3	1948.8
4	40	3	976.8	30325.2	56084.6	13814.2	3004.6	5641.8	1314.2
4	50	3	976.8	24137.4	57175.8	9336.9	2371.1	5753.5	855.9

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
4	60	3	976.8	16853.2	42289.0	6346.0	1625.4	4229.4	549.7
4	70	3	976.8	10430.1	21409.0	4430.5	967.8	2091.8	353.6
4	80	3	976.8	5881.8	8568.4	3206.6	502.2	777.2	228.3
4	90	3	976.8	3090.6	3238.8	2413.8	216.4	231.6	147.1
4	10	4	976.8	36123.7	37482.3	33619.5	3598.2	3737.3	3341.8
4	20	4	976.8	35615.8	41333.6	27257.8	3546.2	4131.6	2690.6
4	30	4	976.8	33530.5	47254.5	19793.2	3332.7	4737.8	1926.4
4	40	4	976.8	28864.5	52491.0	13322.2	2855.0	5273.9	1263.9
4	50	4	976.8	21904.6	50548.3	8608.8	2142.5	5075.0	781.3
4	60	4	976.8	14615.3	37066.4	5471.5	1396.3	3694.7	460.2
4	70	4	976.8	8868.3	20824.6	3491.0	807.9	2032.0	257.4
4	80	4	976.8	5118.2	9977.2	2262.7	424.0	921.4	131.6
4	90	4	976.8	2906.4	4613.1	1492.8	197.5	372.3	52.8
4	10	5	976.8	976.4	981.4	968.0	0.0	0.5	-0.9
4	20	5	976.8	978.5	996.4	944.3	0.2	2.0	-3.3
4	30	5	976.8	989.2	1029.4	912.4	1.3	5.4	-6.6
4	40	5	976.8	1015.1	1092.2	880.9	3.9	11.8	-9.8
4	50	5	976.8	1072.6	1208.6	860.6	9.8	23.7	-11.9
4	60	5	976.8	1188.2	1426.6	862.9	21.6	46.0	-11.7
4	70	5	976.8	1411.8	1858.1	903.1	44.5	90.2	-7.5
4	80	5	976.8	1851.0	2785.2	1006.1	89.5	185.1	3.0
4	90	5	976.8	2720.9	4887.6	1224.8	178.6	400.4	25.4
4	10	6	976.8	976.4	981.3	971.0	0.0	0.5	-0.6
4	20	6	976.8	976.8	988.7	954.5	0.0	1.2	-2.3
4	30	6	976.8	980.7	1006.3	929.6	0.4	3.0	-4.8
4	40	6	976.8	987.8	1035.6	899.9	1.1	6.0	-7.9
4	50	6	976.8	1003.7	1082.3	868.2	2.8	10.8	-11.1
4	60	6	976.8	1033.3	1156.2	838.8	5.8	18.4	-14.1
4	70	6	976.8	1084.0	1272.3	814.1	11.0	30.3	-16.7
4	80	6	976.8	1165.9	1460.7	795.6	19.4	49.5	-18.5
4	90	6	976.8	1292.6	1766.5	785.3	32.3	80.8	-19.6
8	10	1	976.8	36042.3	38833.5	31206.2	3589.9	3875.6	3094.8
8	20	1	976.8	33978.6	46343.9	20843.5	3378.6	4644.5	2033.9
8	30	1	976.8	27083.3	53075.2	11819.2	2672.7	5333.7	1110.0
8	40	1	976.8	16666.0	41820.3	6267.8	1606.2	4181.4	541.7
8	50	1	976.8	8287.9	19007.0	3326.1	748.5	1845.9	240.5
8	60	1	976.8	3768.3	6557.2	1838.4	285.8	571.3	88.2
8	70	1	976.8	1707.4	2269.5	1071.1	74.8	132.3	9.7
8	80	1	976.8	796.3	846.9	662.4	-18.5	-13.3	-32.2
8	90	1	976.8	383.2	431.5	336.3	-60.8	-55.8	-65.6
8	10	2	976.8	976.3	991.4	946.7	-0.1	1.5	-3.1
8	20	2	976.8	974.5	1036.0	863.8	-0.2	6.1	-11.6
8	30	2	976.8	962.1	1107.7	745.2	-1.5	13.4	-23.7
8	40	2	976.8	932.0	1204.2	612.5	-4.6	23.3	-37.3
8	50	2	976.8	874.1	1305.5	483.6	-10.5	33.7	-50.5
8	60	2	976.8	783.2	1382.4	370.5	-19.8	41.5	-62.1
8	70	2	976.8	663.9	1381.6	277.9	-32.0	41.4	-71.6
8	80	2	976.8	530.8	1255.4	205.7	-45.7	28.5	-78.9

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
8	90	2	976.8	402.5	1014.5	151.0	-58.8	3.9	-84.5
8	10	3	976.8	36129.3	37507.9	33595.9	3598.8	3739.9	3339.4
8	20	3	976.8	35725.8	41546.0	27251.0	3557.5	4153.3	2689.9
8	30	3	976.8	34033.6	48242.1	19939.0	3384.2	4838.9	1941.3
8	40	3	976.8	30104.3	55711.1	13707.1	2982.0	5603.5	1303.3
8	50	3	976.8	23785.4	56281.8	9206.2	2335.1	5661.9	842.5
8	60	3	976.8	16483.7	41435.2	6198.4	1587.5	4142.0	534.6
8	70	3	976.8	10161.7	21147.9	4278.6	940.3	2065.1	338.0
8	80	3	976.8	5745.0	8630.9	3050.3	488.2	783.6	212.3
8	90	3	976.8	3049.3	3321.2	2251.8	212.2	240.0	130.5
8	10	4	976.8	36117.6	37528.3	33508.0	3597.6	3742.0	3330.4
8	20	4	976.8	35467.0	41432.9	26870.6	3531.0	4141.8	2650.9
8	30	4	976.8	32862.5	46900.8	19110.6	3264.3	4701.5	1856.5
8	40	4	976.8	27278.1	50329.4	12456.9	2692.6	5052.6	1175.3
8	50	4	976.8	19592.4	45226.6	7704.3	1905.8	4530.1	688.7
8	60	4	976.8	12331.2	31175.6	4639.2	1162.4	3091.7	374.9
8	70	4	976.8	7147.9	17319.9	2780.1	631.8	1673.2	184.6
8	80	4	976.8	4019.9	8764.7	1680.3	311.5	797.3	72.0
8	90	4	976.8	2271.2	4427.6	1033.9	132.5	353.3	5.9
8	10	5	976.8	976.4	981.4	967.9	0.0	0.5	-0.9
8	20	5	976.8	978.4	996.5	943.9	0.2	2.0	-3.4
8	30	5	976.8	988.6	1029.4	911.4	1.2	5.4	-6.7
8	40	5	976.8	1014.0	1091.6	878.7	3.8	11.8	-10.0
8	50	5	976.8	1069.5	1206.1	856.7	9.5	23.5	-12.3
8	60	5	976.8	1180.6	1419.0	856.0	20.9	45.3	-12.4
8	70	5	976.8	1394.5	1836.7	891.2	42.8	88.0	-8.8
8	80	5	976.8	1810.8	2723.8	985.3	85.4	178.9	0.9
8	90	5	976.8	2628.4	4719.7	1186.7	169.1	383.2	21.5
8	10	6	976.8	976.3	981.2	969.7	0.0	0.5	-0.7
8	20	6	976.8	976.2	990.0	949.2	-0.1	1.4	-2.8
8	30	6	976.8	975.8	1006.4	915.7	-0.1	3.0	-6.3
8	40	6	976.8	971.8	1027.9	870.9	-0.5	5.2	-10.8
8	50	6	976.8	964.7	1053.7	816.1	-1.2	7.9	-16.5
8	60	6	976.8	951.6	1080.4	753.7	-2.6	10.6	-22.8
8	70	6	976.8	931.0	1107.4	686.6	-4.7	13.4	-29.7
8	80	6	976.8	901.0	1129.2	616.8	-7.8	15.6	-36.9
8	90	6	976.8	860.5	1140.6	547.3	-11.9	16.8	-44.0
16	10	1	976.8	36042.2	38833.9	31205.2	3589.9	3875.7	3094.7
16	20	1	976.8	33976.7	46344.0	20840.8	3378.4	4644.5	2033.6
16	30	1	976.8	27076.6	53066.0	11815.6	2672.0	5332.7	1109.6
16	40	1	976.8	16656.6	41797.0	6264.4	1605.2	4179.0	541.3
16	50	1	976.8	8281.1	18993.5	3323.2	747.8	1844.5	240.2
16	60	1	976.8	3764.9	6554.3	1836.1	285.4	571.0	88.0
16	70	1	976.8	1706.0	2269.7	1069.3	74.7	132.4	9.5
16	80	1	976.8	795.9	847.4	661.0	-18.5	-13.2	-32.3
16	90	1	976.8	383.2	430.4	336.8	-60.8	-55.9	-65.5
16	10	2	976.8	976.3	991.4	946.7	-0.1	1.5	-3.1
16	20	2	976.8	974.5	1036.0	863.8	-0.2	6.1	-11.6

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
16	30	2	976.8	962.1	1107.7	745.2	-1.5	13.4	-23.7
16	40	2	976.8	931.9	1204.2	612.5	-4.6	23.3	-37.3
16	50	2	976.8	874.0	1305.4	483.6	-10.5	33.6	-50.5
16	60	2	976.8	783.0	1382.1	370.4	-19.8	41.5	-62.1
16	70	2	976.8	663.6	1381.1	277.8	-32.1	41.4	-71.6
16	80	2	976.8	530.5	1254.7	205.6	-45.7	28.4	-79.0
16	90	2	976.8	402.2	1013.8	150.9	-58.8	3.8	-84.6
16	10	3	976.8	36129.2	37508.3	33595.2	3598.8	3740.0	3339.4
16	20	3	976.8	35724.9	41546.8	27248.5	3557.4	4153.4	2689.6
16	30	3	976.8	34029.3	48240.6	19934.6	3383.8	4838.7	1940.8
16	40	3	976.8	30093.9	55697.6	13701.3	2980.9	5602.1	1302.7
16	50	3	976.8	23769.0	56243.8	9199.8	2333.4	5658.0	841.8
16	60	3	976.8	16466.4	41392.4	6192.0	1585.8	4137.6	533.9
16	70	3	976.8	10149.0	21136.5	4272.5	939.0	2063.9	337.4
16	80	3	976.8	5738.3	8630.4	3044.4	487.5	783.6	211.7
16	90	3	976.8	3047.2	3326.6	2246.4	212.0	240.6	130.0
16	10	4	976.8	36118.5	37519.5	33527.5	3597.7	3741.1	3332.4
16	20	4	976.8	35491.1	41413.5	26936.4	3533.5	4139.8	2657.7
16	30	4	976.8	32968.2	46940.5	19223.1	3275.2	4705.6	1868.0
16	40	4	976.8	27524.5	50653.6	12594.5	2717.9	5085.7	1189.4
16	50	4	976.8	19940.0	46021.4	7841.7	1941.4	4611.5	702.8
16	60	4	976.8	12663.7	32032.7	4760.1	1196.5	3179.4	387.3
16	70	4	976.8	7394.9	17865.7	2877.9	657.1	1729.0	194.6
16	80	4	976.8	4179.7	9006.0	1756.0	327.9	822.0	79.8
16	90	4	976.8	2368.6	4503.4	1091.1	142.5	361.0	11.7
16	10	5	976.8	976.4	981.4	967.9	0.0	0.5	-0.9
16	20	5	976.8	978.4	996.5	943.8	0.2	2.0	-3.4
16	30	5	976.8	988.6	1029.4	911.4	1.2	5.4	-6.7
16	40	5	976.8	1013.9	1091.5	878.6	3.8	11.7	-10.1
16	50	5	976.8	1069.2	1205.9	856.4	9.5	23.5	-12.3
16	60	5	976.8	1180.0	1418.3	855.5	20.8	45.2	-12.4
16	70	5	976.8	1393.1	1834.8	890.4	42.6	87.8	-8.8
16	80	5	976.8	1807.6	2718.5	983.9	85.1	178.3	0.7
16	90	5	976.8	2621.0	4706.2	1183.8	168.3	381.8	21.2
16	10	6	976.8	976.3	981.2	970.0	0.0	0.5	-0.7
16	20	6	976.8	976.3	989.8	950.1	-0.1	1.3	-2.7
16	30	6	976.8	976.1	1006.3	918.1	-0.1	3.0	-6.0
16	40	6	976.8	974.9	1028.9	875.7	-0.2	5.3	-10.4
16	50	6	976.8	970.4	1057.9	824.5	-0.7	8.3	-15.6
16	60	6	976.8	963.9	1091.5	766.8	-1.3	11.7	-21.5
16	70	6	976.8	953.1	1130.9	705.4	-2.4	15.8	-27.8
16	80	6	976.8	937.0	1173.5	641.6	-4.1	20.1	-34.3
16	90	6	976.8	914.7	1217.4	578.3	-6.4	24.6	-40.8

Table C- 6. Fatigue Life in Passes - Rigidly Clamped, Low Sea State, 25 Knots

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	10	1	9291.5	344096.1	359077.8	319728.5	3603.3	3764.6	3341.1
1	20	1	9291.5	345416.9	413000.5	262978.5	3617.5	4344.9	2730.3
1	30	1	9291.5	351544.5	538366.8	204063.0	3683.5	5694.2	2096.2
1	40	1	9291.5	363332.8	802817.2	161188.2	3810.4	8540.3	1634.8
1	50	1	9291.5	360212.7	1032317.3	140444.1	3776.8	11010.3	1411.5
1	60	1	9291.5	279338.6	498178.8	145025.5	2906.4	5261.6	1460.8
1	70	1	9291.5	130534.4	204552.5	107580.7	1304.9	2101.5	1057.8
1	80	1	9291.5	39917.3	372618.5	22861.4	329.6	3910.3	146.0
1	90	1	9291.5	10844.4	304469.3	5744.3	16.7	3176.8	-38.2
1	10	2	9291.5	9300.5	9415.7	9082.5	0.1	1.3	-2.2
1	20	2	9291.5	9318.4	9811.3	8507.8	0.3	5.6	-8.4
1	30	2	9291.5	9374.1	10588.7	7714.0	0.9	14.0	-17.0
1	40	2	9291.5	9562.1	11944.2	6866.2	2.9	28.5	-26.1
1	50	2	9291.5	9952.5	14318.5	6107.5	7.1	54.1	-34.3
1	60	2	9291.5	10669.5	18611.6	5530.0	14.8	100.3	-40.5
1	70	2	9291.5	11821.8	26335.0	5194.4	27.2	183.4	-44.1
1	80	2	9291.5	13337.2	37749.2	5187.1	43.5	306.3	-44.2
1	90	2	9291.5	14397.9	39959.7	5650.3	55.0	330.1	-39.2
1	10	3	9291.5	344141.0	350713.1	333225.3	3603.8	3674.5	3486.3
1	20	3	9291.5	347962.6	375519.9	306153.4	3644.9	3941.5	3195.0
1	30	3	9291.5	363893.8	435780.2	276397.7	3816.4	4590.1	2874.7
1	40	3	9291.5	411388.3	581213.2	257853.1	4327.6	6155.3	2675.1
1	50	3	9291.5	532665.6	984414.5	265293.5	5632.8	10494.8	2755.2
1	60	3	9291.5	820030.3	2179535.5	330272.9	8725.6	23357.2	3454.6
1	70	3	9291.5	1165769.4	2189611.3	573309.3	12446.6	23465.7	6070.2
1	80	3	9291.5	570145.6	2133644.8	374011.6	6036.2	22863.3	3925.3
1	90	3	9291.5	114393.5	3993921.0	60756.4	1131.2	42884.5	553.9
1	10	4	9291.5	344141.0	350713.1	333225.3	3603.8	3674.5	3486.3
1	20	4	9291.5	347962.6	375519.9	306153.4	3644.9	3941.5	3195.0
1	30	4	9291.5	363893.8	435780.2	276397.7	3816.4	4590.1	2874.7
1	40	4	9291.5	411388.3	581213.2	257853.1	4327.6	6155.3	2675.1
1	50	4	9291.5	532665.6	984414.5	265293.5	5632.8	10494.8	2755.2
1	60	4	9291.5	820030.3	2179535.5	330272.9	8725.6	23357.2	3454.6
1	70	4	9291.5	1165769.4	2189611.3	573309.3	12446.6	23465.7	6070.2
1	80	4	9291.5	570145.6	2133644.8	374011.6	6036.2	22863.3	3925.3
1	90	4	9291.5	114393.5	3993921.0	60756.4	1131.2	42884.5	553.9
1	10	5	9291.5	9301.4	9346.9	9203.7	0.1	0.6	-0.9
1	20	5	9291.5	9342.6	9545.5	8979.6	0.5	2.7	-3.4
1	30	5	9291.5	9511.4	10009.7	8721.7	2.4	7.7	-6.1
1	40	5	9291.5	10013.5	11001.0	8588.4	7.8	18.4	-7.6
1	50	5	9291.5	11197.6	13061.3	8794.3	20.5	40.6	-5.4

[1] LOI – Location of interest.

[2] Percent change in fatigue life from "axial only ((fatigue life/axial only fatigue life – 1) x 100).

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
1	60	5	9291.5	13831.3	17648.1	9677.6	48.9	89.9	4.2
1	70	5	9291.5	20130.5	29758.9	12040.8	116.7	220.3	29.6
1	80	5	9291.5	38328.6	73775.3	18422.5	312.5	694.0	98.3
1	90	5	9291.5	104958.4	281935.2	41485.1	1029.6	2934.3	346.5
1	10	6	9291.5	9301.4	9346.9	9203.7	0.1	0.6	-0.9
1	20	6	9291.5	9342.6	9545.5	8979.6	0.5	2.7	-3.4
1	30	6	9291.5	9511.4	10009.7	8721.7	2.4	7.7	-6.1
1	40	6	9291.5	10013.5	11001.0	8588.4	7.8	18.4	-7.6
1	50	6	9291.5	11197.6	13061.3	8794.3	20.5	40.6	-5.4
1	60	6	9291.5	13831.3	17648.1	9677.6	48.9	89.9	4.2
1	70	6	9291.5	20130.5	29758.9	12040.8	116.7	220.3	29.6
1	80	6	9291.5	38328.6	73775.3	18422.5	312.5	694.0	98.3
1	90	6	9291.5	104958.4	281935.2	41485.1	1029.6	2934.3	346.5
2	10	1	9291.5	343396.2	368699.9	304211.4	3595.8	3868.1	3174.1
2	20	1	9291.5	330584.2	446292.8	217357.6	3457.9	4703.2	2239.3
2	30	1	9291.5	285033.7	563974.2	135352.3	2967.7	5969.8	1356.7
2	40	1	9291.5	202486.6	565615.9	79685.4	2079.3	5987.4	757.6
2	50	1	9291.5	117278.4	316267.3	47184.6	1162.2	3303.8	407.8
2	60	1	9291.5	59351.0	114345.0	29228.4	538.8	1130.6	214.6
2	70	1	9291.5	28330.0	37853.9	19240.8	204.9	307.4	107.1
2	80	1	9291.5	13334.0	14013.3	13145.4	43.5	50.8	41.5
2	90	1	9291.5	6322.4	11052.4	4956.7	-32.0	19.0	-46.7
2	10	2	9291.5	9299.0	9428.5	9056.2	0.1	1.5	-2.5
2	20	2	9291.5	9275.5	9836.7	8389.3	-0.2	5.9	-9.7
2	30	2	9291.5	9204.3	10531.1	7419.9	-0.9	13.3	-20.1
2	40	2	9291.5	9007.6	11516.0	6295.9	-3.1	23.9	-32.2
2	50	2	9291.5	8622.9	12736.3	5159.2	-7.2	37.1	-44.5
2	60	2	9291.5	7989.3	14054.4	4112.7	-14.0	51.3	-55.7
2	70	2	9291.5	7098.8	15086.4	3211.9	-23.6	62.4	-65.4
2	80	2	9291.5	6015.7	15171.3	2472.6	-35.3	63.3	-73.4
2	90	2	9291.5	4861.8	13861.3	1887.3	-47.7	49.2	-79.7
2	10	3	9291.5	344023.7	356165.4	323698.1	3602.6	3733.2	3383.8
2	20	3	9291.5	342022.7	395447.1	272270.7	3581.0	4156.0	2830.3
2	30	3	9291.5	334587.8	469632.5	211067.4	3501.0	4954.4	2171.6
2	40	3	9291.5	315863.5	586545.3	156704.4	3299.5	6212.7	1586.5
2	50	3	9291.5	279799.5	704792.4	115570.4	2911.3	7485.3	1143.8
2	60	3	9291.5	224947.5	649718.0	87426.1	2321.0	6892.6	840.9
2	70	3	9291.5	159480.1	371740.0	69541.2	1616.4	3900.8	648.4
2	80	3	9291.5	98475.3	149418.4	58771.8	959.8	1508.1	532.5
2	90	3	9291.5	53561.6	55786.9	53186.0	476.5	500.4	472.4
2	10	4	9291.5	344010.8	356345.0	323355.4	3602.4	3735.2	3380.1
2	20	4	9291.5	341427.8	395783.3	270960.4	3574.6	4159.6	2816.2
2	30	4	9291.5	332033.1	468422.4	208410.5	3473.5	4941.4	2143.0
2	40	4	9291.5	308783.0	576628.4	152586.2	3223.3	6106.0	1542.2
2	50	4	9291.5	266560.1	671318.7	110099.7	2768.9	7125.1	1084.9
2	60	4	9291.5	207830.8	601500.8	80681.1	2136.8	6373.6	768.3
2	70	4	9291.5	144328.3	351671.5	61383.9	1453.3	3684.9	560.6
2	80	4	9291.5	89645.5	150586.2	49181.6	864.8	1520.7	429.3

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
2	90	4	9291.5	50662.8	57828.4	41638.8	445.3	522.4	348.1
2	10	5	9291.5	9299.5	9335.5	9219.2	0.1	0.5	-0.8
2	20	5	9291.5	9318.3	9477.2	9020.0	0.3	2.0	-2.9
2	30	5	9291.5	9370.6	9764.9	8739.6	0.9	5.1	-5.9
2	40	5	9291.5	9564.9	10290.3	8444.0	2.9	10.7	-9.1
2	50	5	9291.5	9960.0	11209.0	8223.1	7.2	20.6	-11.5
2	60	5	9291.5	10733.6	12825.1	8162.4	15.5	38.0	-12.2
2	70	5	9291.5	12180.9	15761.4	8387.0	31.1	69.6	-9.7
2	80	5	9291.5	14897.3	21577.2	9083.9	60.3	132.2	-2.2
2	90	5	9291.5	20246.8	34624.9	10648.4	117.9	272.7	14.6
2	10	6	9291.5	9298.7	9332.0	9222.3	0.1	0.4	-0.7
2	20	6	9291.5	9298.8	9449.2	9018.9	0.1	1.7	-2.9
2	30	6	9291.5	9290.9	9645.3	8691.7	0.0	3.8	-6.5
2	40	6	9291.5	9265.0	9926.3	8253.0	-0.3	6.8	-11.2
2	50	6	9291.5	9226.4	10285.7	7735.5	-0.7	10.7	-16.7
2	60	6	9291.5	9162.3	10724.3	7160.3	-1.4	15.4	-22.9
2	70	6	9291.5	9051.5	11241.9	6550.6	-2.6	21.0	-29.5
2	80	6	9291.5	8886.5	11810.6	5934.4	-4.4	27.1	-36.1
2	90	6	9291.5	8657.9	12439.3	5325.9	-6.8	33.9	-42.7
3	10	1	9291.5	343393.9	368466.4	304496.8	3595.8	3865.6	3177.1
3	20	1	9291.5	330504.3	445097.3	217940.7	3457.0	4690.4	2245.6
3	30	1	9291.5	284729.9	559850.6	135747.8	2964.4	5925.4	1361.0
3	40	1	9291.5	202044.6	561685.2	79661.7	2074.5	5945.1	757.4
3	50	1	9291.5	117051.6	319161.5	46792.2	1159.8	3335.0	403.6
3	60	1	9291.5	59439.8	117995.3	28601.3	539.7	1169.9	207.8
3	70	1	9291.5	28590.9	39836.8	18497.8	207.7	328.7	99.1
3	80	1	9291.5	13626.3	14072.4	12758.7	46.7	51.5	37.3
3	90	1	9291.5	6548.1	9897.4	5352.9	-29.5	6.5	-42.4
3	10	2	9291.5	9299.0	9429.0	9055.2	0.1	1.5	-2.5
3	20	2	9291.5	9274.2	9838.2	8385.1	-0.2	5.9	-9.8
3	30	2	9291.5	9199.9	10531.3	7410.1	-1.0	13.3	-20.2
3	40	2	9291.5	8992.8	11506.1	6278.5	-3.2	23.8	-32.4
3	50	2	9291.5	8589.9	12703.1	5133.2	-7.6	36.7	-44.8
3	60	2	9291.5	7929.0	13962.8	4078.2	-14.7	50.3	-56.1
3	70	2	9291.5	7007.6	14892.5	3170.6	-24.6	60.3	-65.9
3	80	2	9291.5	5898.6	14849.7	2426.8	-36.5	59.8	-73.9
3	90	2	9291.5	4731.8	13451.3	1838.7	-49.1	44.8	-80.2
3	10	3	9291.5	344020.2	356071.8	323808.0	3602.5	3732.2	3385.0
3	20	3	9291.5	341840.4	394882.1	272489.3	3579.1	4149.9	2832.7
3	30	3	9291.5	333794.8	467374.0	211125.4	3492.5	4930.1	2172.2
3	40	3	9291.5	313656.1	579097.3	156205.1	3275.7	6132.5	1581.2
3	50	3	9291.5	275729.6	689022.1	114341.7	2867.5	7315.6	1130.6
3	60	3	9291.5	219914.5	636259.9	85277.6	2266.8	6747.7	817.8
3	70	3	9291.5	155556.2	374753.5	66398.6	1574.2	3933.3	614.6
3	80	3	9291.5	96978.5	156198.3	54480.5	943.7	1581.1	486.3
3	90	3	9291.5	53843.9	57245.3	47506.2	479.5	516.1	411.3
3	10	4	9291.5	343921.3	356612.3	322428.3	3601.4	3738.0	3370.1
3	20	4	9291.5	338294.5	394141.5	266376.1	3540.9	4141.9	2766.9

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
3	30	4	9291.5	317015.9	450849.9	197329.2	3311.9	4752.3	2023.8
3	40	4	9291.5	269993.0	501772.4	133862.7	2805.8	5300.3	1340.7
3	50	4	9291.5	201815.8	487038.7	85162.6	2072.0	5141.7	816.6
3	60	4	9291.5	132831.0	376262.9	51950.9	1329.6	3949.5	459.1
3	70	4	9291.5	79959.8	233209.6	30956.4	760.6	2409.9	233.2
3	80	4	9291.5	46081.9	128677.4	18262.5	396.0	1284.9	96.6
3	90	4	9291.5	26292.7	69056.0	10772.9	183.0	643.2	15.9
3	10	5	9291.5	9299.8	9334.5	9221.8	0.1	0.5	-0.8
3	20	5	9291.5	9328.3	9477.0	9033.3	0.4	2.0	-2.8
3	30	5	9291.5	9400.6	9778.2	8781.8	1.2	5.2	-5.5
3	40	5	9291.5	9634.7	10357.0	8544.4	3.7	11.5	-8.0
3	50	5	9291.5	10167.4	11416.1	8432.7	9.4	22.9	-9.2
3	60	5	9291.5	11228.8	13381.3	8569.3	20.8	44.0	-7.8
3	70	5	9291.5	13291.0	17201.3	9149.3	43.0	85.1	-1.5
3	80	5	9291.5	17462.2	25570.0	10539.3	87.9	175.2	13.4
3	90	5	9291.5	26744.7	47517.9	13637.6	187.8	411.4	46.8
3	10	6	9291.5	9298.4	9325.1	9232.7	0.1	0.4	-0.6
3	20	6	9291.5	9292.7	9415.2	9051.8	0.0	1.3	-2.6
3	30	6	9291.5	9229.0	9536.9	8737.9	-0.7	2.6	-6.0
3	40	6	9291.5	9113.7	9654.1	8270.7	-1.9	3.9	-11.0
3	50	6	9291.5	8872.7	9705.8	7654.2	-4.5	4.5	-17.6
3	60	6	9291.5	8454.7	9608.4	6891.4	-9.0	3.4	-25.8
3	70	6	9291.5	7821.9	9280.1	6006.7	-15.8	-0.1	-35.4
3	80	6	9291.5	6973.5	8657.1	5054.1	-24.9	-6.8	-45.6
3	90	6	9291.5	5952.0	7720.3	4093.1	-35.9	-16.9	-55.9
4	10	1	9291.5	343378.7	368433.9	304501.2	3595.6	3865.3	3177.2
4	20	1	9291.5	330258.9	444649.5	217835.4	3454.4	4685.5	2244.5
4	30	1	9291.5	283766.3	557298.4	135391.6	2954.0	5897.9	1357.2
4	40	1	9291.5	200413.3	556211.3	79068.9	2056.9	5886.2	751.0
4	50	1	9291.5	115602.0	316990.0	46072.4	1144.2	3311.6	395.9
4	60	1	9291.5	58645.4	118687.1	27842.7	531.2	1177.4	199.7
4	70	1	9291.5	28311.9	40722.7	17748.0	204.7	338.3	91.0
4	80	1	9291.5	13600.0	14589.4	11999.7	46.4	57.0	29.1
4	90	1	9291.5	6618.5	9035.5	5627.3	-28.8	-2.8	-39.4
4	10	2	9291.5	9299.0	9428.5	9056.3	0.1	1.5	-2.5
4	20	2	9291.5	9275.7	9836.8	8389.6	-0.2	5.9	-9.7
4	30	2	9291.5	9205.0	10531.1	7420.7	-0.9	13.3	-20.1
4	40	2	9291.5	9010.0	11518.9	6297.5	-3.0	24.0	-32.2
4	50	2	9291.5	8628.1	12744.7	5162.0	-7.1	37.2	-44.4
4	60	2	9291.5	7998.6	14074.3	4116.6	-13.9	51.5	-55.7
4	70	2	9291.5	7112.7	15126.2	3216.7	-23.5	62.8	-65.4
4	80	2	9291.5	6033.0	15233.9	2478.1	-35.1	64.0	-73.3
4	90	2	9291.5	4880.4	13935.3	1892.7	-47.5	50.0	-79.6
4	10	3	9291.5	344016.8	356046.9	323820.8	3602.5	3732.0	3385.1
4	20	3	9291.5	341665.1	394625.7	272439.1	3577.2	4147.2	2832.1
4	30	3	9291.5	333051.5	466021.3	210802.9	3484.5	4915.5	2168.8
4	40	3	9291.5	311602.0	574064.3	155417.8	3253.6	6078.4	1572.7
4	50	3	9291.5	271938.4	676642.2	113014.5	2826.7	7182.4	1116.3

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
4	60	3	9291.5	215128.5	622438.8	83338.5	2215.3	6599.0	796.9
4	70	3	9291.5	151533.4	372906.2	63863.0	1530.9	3913.4	587.3
4	80	3	9291.5	94938.2	160031.5	51338.9	921.8	1622.3	452.5
4	90	3	9291.5	53584.8	60167.2	43504.5	476.7	547.5	368.2
4	10	4	9291.5	343988.3	355852.2	323920.5	3602.2	3729.9	3386.2
4	20	4	9291.5	340380.4	392573.5	272022.9	3563.3	4125.1	2827.6
4	30	4	9291.5	327035.1	455195.8	208146.7	3419.7	4799.0	2140.2
4	40	4	9291.5	295394.0	534703.9	149203.5	3079.2	5654.7	1505.8
4	50	4	9291.5	243089.2	583131.6	102903.0	2516.2	6175.9	1007.5
4	60	4	9291.5	179664.7	514927.8	69848.2	1833.6	5441.9	651.7
4	70	4	9291.5	120690.8	338188.0	47538.3	1198.9	3539.7	411.6
4	80	4	9291.5	75889.0	177804.3	32848.6	716.8	1813.6	253.5
4	90	4	9291.5	46045.2	85267.3	23166.1	395.6	817.7	149.3
4	10	5	9291.5	9299.8	9333.6	9223.7	0.1	0.5	-0.7
4	20	5	9291.5	9330.7	9474.6	9042.0	0.4	2.0	-2.7
4	30	5	9291.5	9414.9	9778.5	8804.8	1.3	5.2	-5.2
4	40	5	9291.5	9672.1	10369.5	8593.9	4.1	11.6	-7.5
4	50	5	9291.5	10243.4	11469.6	8529.0	10.2	23.4	-8.2
4	60	5	9291.5	11406.2	13546.6	8747.7	22.8	45.8	-5.9
4	70	5	9291.5	13710.4	17674.1	9480.2	47.6	90.2	2.0
4	80	5	9291.5	18498.3	27041.7	11182.8	99.1	191.0	20.4
4	90	5	9291.5	29665.6	52992.1	15048.7	219.3	470.3	62.0
4	10	6	9291.5	9298.9	9325.5	9246.8	0.1	0.4	-0.5
4	20	6	9291.5	9305.0	9402.9	9119.0	0.1	1.2	-1.9
4	30	6	9291.5	9338.4	9562.3	8929.3	0.5	2.9	-3.9
4	40	6	9291.5	9403.1	9833.0	8703.0	1.2	5.8	-6.3
4	50	6	9291.5	9571.6	10270.8	8482.3	3.0	10.5	-8.7
4	60	6	9291.5	9862.6	10959.7	8309.5	6.1	18.0	-10.6
4	70	6	9291.5	10384.2	12036.5	8228.4	11.8	29.5	-11.4
4	80	6	9291.5	11252.7	13770.3	8288.9	21.1	48.2	-10.8
4	90	6	9291.5	12671.2	16647.5	8569.0	36.4	79.2	-7.8
8	10	1	9291.5	343358.8	368482.3	304395.4	3595.4	3865.8	3176.1
8	20	1	9291.5	329972.0	444601.9	217468.1	3451.3	4685.0	2240.5
8	30	1	9291.5	282655.1	555606.4	134778.8	2942.1	5879.7	1350.6
8	40	1	9291.5	198513.1	550767.6	78325.8	2036.5	5827.6	743.0
8	50	1	9291.5	113866.3	313176.3	45307.9	1125.5	3270.6	387.6
8	60	1	9291.5	57612.0	118115.8	27108.1	520.0	1171.2	191.8
8	70	1	9291.5	27855.7	40988.2	17082.0	199.8	341.1	83.8
8	80	1	9291.5	13459.6	14870.8	11376.6	44.9	60.0	22.4
8	90	1	9291.5	6610.4	8382.7	5805.3	-28.9	-9.8	-37.5
8	10	2	9291.5	9299.0	9428.5	9056.2	0.1	1.5	-2.5
8	20	2	9291.5	9275.6	9836.8	8389.4	-0.2	5.9	-9.7
8	30	2	9291.5	9204.6	10531.5	7420.2	-0.9	13.3	-20.1
8	40	2	9291.5	9008.6	11517.4	6296.5	-3.0	24.0	-32.2
8	50	2	9291.5	8625.1	12740.3	5160.2	-7.2	37.1	-44.5
8	60	2	9291.5	7993.1	14063.7	4114.0	-14.0	51.4	-55.7
8	70	2	9291.5	7104.4	15105.5	3213.4	-23.5	62.6	-65.4
8	80	2	9291.5	6022.4	15200.1	2474.2	-35.2	63.6	-73.4

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
8	90	2	9291.5	4868.6	13896.8	1888.5	-47.6	49.6	-79.7
8	10	3	9291.5	344013.0	356079.8	323744.8	3602.4	3732.3	3384.3
8	20	3	9291.5	341478.6	394631.0	272117.7	3575.2	4147.2	2828.7
8	30	3	9291.5	332245.4	465342.8	210083.5	3475.8	4908.2	2161.0
8	40	3	9291.5	309386.7	570415.3	154230.8	3229.8	6039.1	1559.9
8	50	3	9291.5	267838.0	665689.4	111379.6	2782.6	7064.5	1098.7
8	60	3	9291.5	209866.3	607343.5	81269.5	2158.7	6436.5	774.7
8	70	3	9291.5	146854.7	366939.8	61381.9	1480.5	3849.2	560.6
8	80	3	9291.5	92135.5	160861.4	48475.9	891.6	1631.3	421.7
8	90	3	9291.5	52613.2	62092.3	40109.6	466.2	568.3	331.7
8	10	4	9291.5	343950.7	356322.0	323019.9	3601.8	3734.9	3376.5
8	20	4	9291.5	339235.9	393585.7	268663.5	3551.0	4136.0	2791.5
8	30	4	9291.5	321125.6	452861.6	201620.2	3356.1	4773.9	2069.9
8	40	4	9291.5	280142.4	515514.9	139837.4	2915.0	5448.2	1405.0
8	50	4	9291.5	217638.9	524522.1	91896.8	2242.3	5545.2	889.0
8	60	4	9291.5	149972.0	427416.8	58458.5	1514.1	4500.1	529.2
8	70	4	9291.5	94375.3	272667.7	36673.3	915.7	2834.6	294.7
8	80	4	9291.5	56551.4	149592.1	22958.5	508.6	1510.0	147.1
8	90	4	9291.5	33417.5	78433.7	14466.5	259.7	744.1	55.7
8	10	5	9291.5	9299.8	9333.9	9223.0	0.1	0.5	-0.7
8	20	5	9291.5	9329.8	9475.5	9038.7	0.4	2.0	-2.7
8	30	5	9291.5	9409.2	9777.5	8796.1	1.3	5.2	-5.3
8	40	5	9291.5	9656.5	10363.9	8574.8	3.9	11.5	-7.7
8	50	5	9291.5	10218.9	11447.3	8491.4	10.0	23.2	-8.6
8	60	5	9291.5	11335.6	13478.9	8677.5	22.0	45.1	-6.6
8	70	5	9291.5	13541.2	17481.0	9348.3	45.7	88.1	0.6
8	80	5	9291.5	18076.8	26436.8	10923.3	94.6	184.5	17.6
8	90	5	9291.5	28456.0	50710.9	14468.7	206.3	445.8	55.7
8	10	6	9291.5	9298.6	9325.4	9237.1	0.1	0.4	-0.6
8	20	6	9291.5	9298.2	9414.6	9075.0	0.1	1.3	-2.3
8	30	6	9291.5	9285.8	9560.7	8809.7	-0.1	2.9	-5.2
8	40	6	9291.5	9248.9	9760.3	8443.1	-0.5	5.0	-9.1
8	50	6	9291.5	9201.9	10005.9	7991.2	-1.0	7.7	-14.0
8	60	6	9291.5	9091.8	10275.5	7468.3	-2.2	10.6	-19.6
8	70	6	9291.5	8928.5	10552.3	6885.5	-3.9	13.6	-25.9
8	80	6	9291.5	8681.4	10808.2	6263.0	-6.6	16.3	-32.6
8	90	6	9291.5	8341.9	11001.1	5621.5	-10.2	18.4	-39.5
16	10	1	9291.5	343357.5	368486.6	304387.1	3595.4	3865.8	3176.0
16	20	1	9291.5	329956.4	444605.1	217442.8	3451.2	4685.1	2240.2
16	30	1	9291.5	282591.2	555528.8	134740.2	2941.4	5878.9	1350.1
16	40	1	9291.5	198403.5	550473.9	78282.0	2035.3	5824.5	742.5
16	50	1	9291.5	113765.0	312936.7	45265.1	1124.4	3268.0	387.2
16	60	1	9291.5	57551.5	118057.1	27069.1	519.4	1170.6	191.3
16	70	1	9291.5	27827.7	40999.9	17048.7	199.5	341.3	83.5
16	80	1	9291.5	13450.7	14881.8	11345.0	44.8	60.2	22.1
16	90	1	9291.5	6608.6	8350.5	5813.0	-28.9	-10.1	-37.4
16	10	2	9291.5	9299.0	9428.5	9056.2	0.1	1.5	-2.5
16	20	2	9291.5	9275.5	9836.8	8389.3	-0.2	5.9	-9.7

A/B	B/t	LOI[1]	Axial Only	Mean	Max	Min	Mean %[2]	Max %[2]	Min %[2]
16	30	2	9291.5	9204.5	10531.5	7419.9	-0.9	13.3	-20.1
16	40	2	9291.5	9008.2	11517.2	6296.0	-3.0	24.0	-32.2
16	50	2	9291.5	8624.2	12739.3	5159.4	-7.2	37.1	-44.5
16	60	2	9291.5	7991.4	14061.1	4113.1	-14.0	51.3	-55.7
16	70	2	9291.5	7101.8	15099.8	3212.2	-23.6	62.5	-65.4
16	80	2	9291.5	6019.1	15189.6	2472.9	-35.2	63.5	-73.4
16	90	2	9291.5	4864.9	13885.0	1887.2	-47.6	49.4	-79.7
16	10	3	9291.5	344012.8	356082.7	323738.7	3602.4	3732.3	3384.2
16	20	3	9291.5	341469.8	394638.7	272096.2	3575.1	4147.3	2828.4
16	30	3	9291.5	332209.7	465334.8	210041.2	3475.4	4908.2	2160.6
16	40	3	9291.5	309288.8	570299.7	154168.6	3228.7	6037.8	1559.2
16	50	3	9291.5	267654.4	665265.1	111300.9	2780.6	7059.9	1097.9
16	60	3	9291.5	209628.2	606669.3	81177.6	2156.1	6429.3	773.7
16	70	3	9291.5	146639.1	366566.7	61277.1	1478.2	3845.2	559.5
16	80	3	9291.5	91996.2	160815.6	48362.1	890.1	1630.8	420.5
16	90	3	9291.5	52555.6	62122.4	39976.4	465.6	568.6	330.2
16	10	4	9291.5	343956.9	356240.1	323176.8	3601.8	3734.0	3378.2
16	20	4	9291.5	339428.0	393370.8	269228.0	3553.1	4133.6	2797.6
16	30	4	9291.5	322053.9	453077.9	202682.8	3366.1	4776.2	2081.4
16	40	4	9291.5	282485.9	518153.7	141314.3	2940.3	5476.6	1420.9
16	50	4	9291.5	221420.2	532886.4	93557.1	2283.0	5635.2	906.9
16	60	4	9291.5	154216.4	439776.8	60086.4	1559.8	4633.1	546.7
16	70	4	9291.5	98034.7	282355.3	38128.8	955.1	2938.8	310.4
16	80	4	9291.5	59231.8	154470.1	24220.7	537.5	1562.5	160.7
16	90	4	9291.5	35220.1	80291.6	15499.9	279.1	764.1	66.8
16	10	5	9291.5	9299.8	9333.9	9223.0	0.1	0.5	-0.7
16	20	5	9291.5	9329.8	9475.4	9038.5	0.4	2.0	-2.7
16	30	5	9291.5	9408.7	9777.3	8795.6	1.3	5.2	-5.3
16	40	5	9291.5	9655.3	10363.1	8573.7	3.9	11.5	-7.7
16	50	5	9291.5	10216.6	11444.9	8489.1	10.0	23.2	-8.6
16	60	5	9291.5	11329.4	13472.2	8672.7	21.9	45.0	-6.7
16	70	5	9291.5	13527.5	17463.0	9339.0	45.6	87.9	0.5
16	80	5	9291.5	18042.9	26383.4	10904.5	94.2	184.0	17.4
16	90	5	9291.5	28360.9	50516.2	14426.1	205.2	443.7	55.3
16	10	6	9291.5	9298.7	9325.4	9238.8	0.1	0.4	-0.6
16	20	6	9291.5	9299.0	9412.3	9082.7	0.1	1.3	-2.2
16	30	6	9291.5	9295.7	9559.7	8829.9	0.0	2.9	-5.0
16	40	6	9291.5	9277.3	9769.5	8485.8	-0.2	5.1	-8.7
16	50	6	9291.5	9247.5	10044.2	8069.4	-0.5	8.1	-13.2
16	60	6	9291.5	9209.9	10375.1	7597.1	-0.9	11.7	-18.2
16	70	6	9291.5	9134.9	10762.8	7081.3	-1.7	15.8	-23.8
16	80	6	9291.5	9028.1	11204.9	6539.7	-2.8	20.6	-29.6
16	90	6	9291.5	8873.9	11681.3	5989.6	-4.5	25.7	-35.5